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ABSTRACT

Focusing on Massachusetts as a case study, this research relates 19th century schooling patterns to social change. Indices of social change included schooling differences in rural and urban areas, industrial and economic development, school community relationship, and family life. The document contains 10 chapters; each chapter is based on both statistical and literary sources. Chapter I introduces the research, discusses the revisionist nature of recent educational history, and explains why Massachusetts was selected as a case study. Chapter II characterizes common schooling and enrollment levels prior to 1840. Chapter III examines school attendance trends from 1840-80. Chapter IV assesses rural urban schooling differences. Chapter V discusses the politics of educational reform in mid-nineteenth century Massachusetts. Chapter VI examines relationships among parents, students, and the schools. Chapter VII considers pressures which encouraged students to leave school and work in the factories. Chapters VIII and IX present case studies of a typical rural school system (Boxford) and an urban school system (Lynn). The final chapter summarizes research findings. General conclusions are that educational development was strongly related to demographic and economic trends; organized differently in rural and urban areas; and responsible for constantly increasing roles in childrens' lives. (Author/DB)

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FINAL RESEARCH REPORT
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EDUCATION AND SOCIAL CHANGE IN NINETEENTH-CENTURY MASSACHUSETTS: QUANTITATIVE STUDIES

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TABLE OF CONTENTS

Chapter Page

I. Introduction 1

II. Common Schooling during American Education's "Sleepy" Period: Enrollment Levels in the Northeast Prior to 1840 13

III. Trends in Massachusetts School Attendance, 1840-1880 34

IV. From One Room to One System: The Importance of Rural-Urban Differences in Nineteenth-Century Massachusetts Schooling 55

V. The Politics of Educational Reform in Mid-Nineteenth-Century Massachusetts 121

VI. From Apron Strings to ABC's: Parents, Children, and Schooling in Nineteenth-Century Massachusetts 179

VII. From Fireside to Factory: School Entry and School Leaving in Nineteenth-Century Massachusetts 241

VIII. Education in a Nineteenth-Century Rural Community: The Case of Boxford, Massachusetts 290

IX. School and Society in a Nineteenth-Century Industrial City: A Case Study of Lynn, Massachusetts 331

X. Conclusions 393

Appendix A: Tables referred to in the chapters following p. 415

Appendix B: Definition of the variables contained in the tables in Appendix A, III-1 through III-5

Appendix C: Discussion of adjustments, estimates, and extapolations made in calculating Tables VII-1 through VII-5, Appendix A

PREFACE

This is the final report on research carried out with the generous assistance of the National Institute of Education (Grant NE-G-00-3-0068). The research proposal was entitled "The Importance of Rural-Urban Differences in Nineteenth-Century American Schooling," focussing on Massachusetts as a case study. Carl F. Kaestle of the University of Wisconsin was the Project Director, and Maris A. Vinovskis of the University of Michigan was initially designated the Statistical Consultant. Soon, however, the full collaboration suggested by our co-authorship emerged. Both authors participated in the research, statistical work, and writing of each chapter, with the exception of the two concluding case studies, which were researched and written by graduate assistants Martha Coons and John Jenkins, under Kaestle's guidance.

We have broadened the title because the rural-urban dimension is only one of several aspects of social change we consider in attempting to understand schooling patterns in nineteenth-century Massachusetts. The sub-title, "Quantitative Studies," indicates that the chapters that follow represent somewhat disparate attempts to grapple with the relation of education to various indices of social change. Indeed, the study was proposed, and has been carried out, as a set of distinct research designs each with separate data sources and questions. Nonetheless, there is a

structure to the work, and there are unifying questions. These we outline in the Introduction.

During the past three years we have incurred many debts to those who have provided financial assistance and helpful criticism; many others rendered archival, programming, and research assistance. The following specific acknowledgements do not exhaust the list; our apologies and gratitude go to any whom we may have omitted. The National Institute of Education, Department of Health, Education and Welfare, made these studies possible by providing funds for all of the travel, coding, computing, and research assistance, as well as substantial salary support for Kaestle. The Charles Warren Center for Studies in American History appointed Kaestle a Visiting Fellow in 1974-75, providing him superb facilities, interested colleagues, and financial support for an academic year of study in Massachusetts, a year also supported in part by the Research Committee of the Graduate School, University of Wisconsin. To the Director of the Charles Warren Center, Professor Donald Fleming, and to the Center's staff and seminar members for 1974-75, Kaestle registers his special gratitude for a year of busy research and challenging ideas. To Professor Bernard Bailyn of Harvard, who served us both as mentor in graduate school, we express our thanks again. He would, no doubt, have preferred to see us spend less time in the Computer Center than we have; yet he has continued to provide encouragement for, and insights into, all aspects of our work.

Many other scholars have read and commented on some part of the research. Among those whose help and criticism have been

most substantial are: Samuel Bowles, Lawrence Cremin, Alexander Field, Deborah Hood, Michael Olneck, John Rury, Fred Salzillo, Steven Schlossman, and David Tyack. Two archivists who have been particularly accommodating are James Parla of the Massachusetts State Library Annex and Irene Norton of the Essex Institute in Salem. Chapter VI was prepared for a conference on the history of the family sponsored jointly by the Russell Sage Foundation and the American Journal of Sociology, held in New York City in April, 1975. We owe special thanks to Professor Sarane Boocock of the Russell Sage Foundation and Professor John Demos of Brandeis University, who co-chaired the conference, and to Professor Charles Bidwell, editor of the American Journal of Sociology, which will publish the conference papers in a special issue. Helpful criticism of that chapter also came from the other conference participants: Anne Foner, Frank Furstenberg, Tamara Hareven, Rosabeth Kanter, Michael Katz, Joseph Kett, John Modell, Matilda Riley, Richard Sennett, Neil Smelser, and Carroll Smith-Rosenberg. Chapter VII was prepared for the Conference on the Family Life Course in Historical Perspective sponsored by the Mathematics Social Science Board of the National Science Foundation, chaired by Professor Tamara Hareven and held at Williams College in July, 1975. In addition to Professor Hareven, we wish to thank the participants for criticism: Bengt Ankarloo, Howard Chudakoff, Glen Elder, Laura Mason, John Modell, and Peter Uhlenberg, as well as Ruben Hill and Stanley Engerman, who joined us for a follow-up conference at Airlee, Virginia in December, 1975. The papers prepared for this conference will appear in a forthcoming special issue of the Journal of Family History, edited by Tamara Hareven. The 1880 Essex County family census data file used in Chapter VII was prepared by Professors Hareven and Vinovskis with the assistance of a grant from the Rockefeller Foundation.

The large volume of statistical work reported here required countless hours of assistance in coding, keypunching, programming, and running statistics, as well as much research assistance for surveying and assessing the qualitative historical evidence that helped us make some sense of the statistics. Kaestle directed the student assistants, who included, at various times: Joseph Reed, Susan Titus, Nancy Manor, and Donna Rittelsprigger, University of Wisconsin undergraduates; Barbara DeWolfe, Diane Melish, and Michelle Wasserman, graduate students in Cambridge; Dexter Arnold, John Bjerke, Jacqueline Jones, Henry Maier, William Reese, and Barry Teicher, graduate students at Wisconsin; and especially Martha Coons and John Jenkins, the graduate assistants at Wisconsin who carried out the case studies of Boxford and Lynn. Some of these students worked with us only briefly, others for as long as a year; some did routine coding, others did research requiring historical training. All brought to their tasks intelligence and care.

Steve Shedd of the University of Rhode Island programmed the compressed file used in the Essex County family-level study; Mary Vinovskis programmed the Multiple Classification Analysis (an OSIRIS program at the Institute for Social Research, University of Michigan) for both Chapter V and Chapter VII, and gave unstintingly of her time and talent to the project. Most of the remaining computing was done at Harvard, using the statistical package called Data-Text, programmed variously by Kaestle and Vinovskis. Lois Corcoran typed the final report with speed and accuracy; the staff of the Department of Educational Policy Studies, University of Wisconsin, including Bea Tyler, Phyllis Klongland, and Jamie MacEachern, have given cheerful and indispensible aid throughout the project.

While we acknowledge here our debt to these and others, we exempt all but ourselves from responsibility for any failings or inaccuracies in this report. We shall welcome suggestions and criticism from the readers of the report as we turn, in the coming months, to the task of further improving and integrating these quantitative studies.

C.F.K. and M.A.V.
Madison, Wisconsin, December, 1976

CHAPTER I

INTRODUCTION

I. The Current Situation in the History of American Education

The laudatory tradition of educational history that prevailed in the United States until the 1950's emphasized democracy, opportunity, humanitarianism, enlightenment, and the development of an American consensus as motives for public schooling. Historians of education, often committed to the schools of their day by virtue of their positions as school administrators or education professors, saw public schools as the engines of American democracy, as the bulwark of free institutions, as the "balance wheel of the social machinery," in Horace Mann's famous phrase. This tradition emphasized the relationship of schooling to the political system and to the development of a common American culture. It was an idealist tradition, which was, and still is, widely shared by the American public.[1]

The past fifteen years, however, have seen a pendulum swing among historians on questions about the initial and continuing purposes of public schooling. A new critical view has emerged, emphasizing socioeconomic realities rather than political ideals. Revisionist historians emphasize class and cultural conflict, bureaucracy, and the schools' role in inculcating submissive attitudes. Their work constitutes a reaction against the old history of education, but also against the consensus view of American history of the 1950's. Although their normative perspective is much more negative, the revisionists share a basic assumption of their predecessors. They assume that the structure and content of public schooling have been largely determined by the political and economic system in America.[2]

Most of these recent studies, critical of the purposes of nineteenth-century public schools, have relied upon the study of urban sites that experienced severe social stress. Few have given attention to the functions and development of education in small-town and rural America. Thus, these works, even taken collectively, do not constitute a satisfactory revision of the older national synthesis, quite apart from the authors' normative stance. Furthermore, neither the revisionists nor their predecessors have given sufficient attention to the detailed behavioral information that is available concerning schooling in individuals' lives and in towns' development, both across space and across time.

The current historiographical situation in the history of American education, then, leaves a number of important questions unanswered. How did schooling patterns differ in rural and urban areas? Are there important distinctions among urban communities in the extent and type of educational development? What was the age structure of school attendance in different kinds of communities and among different social groups? Our studies address these questions; they are centered around a broad historical problem: how did the changing extent, structure, and control of schooling relate to the social, economic, and cultural features of different nineteenth-century communities, and how did these relationships change over time? Much of the effort is of necessity descriptive. We cannot evaluate assertions about the causal relationship between factory production and increasing public school enrollments until we have carefully traced the sequence and magnitude of those developments. We cannot assess the importance of class and ethnicity in determining school attendance until we have attempted to weigh their relative association with attendance patterns. That the task is descriptive does not make it easy; indeed, the effort is bedevilled constantly by conflicting testimony, ambiguous terminology, and incomplete quantitative evidence. To the extent that we have successfully reconstructed the numerical record, we hope that these studies will serve as a primer on the methodological problems, as well as on the substantive trends, in nineteenth-century quantitative educational history.

II. Social Change and Education

We are impressed by the inadequacy of various one-to-one models that have characterized recent works relating education to social change in nineteenth-century America, works that argue, implicitly or explicitly, that factory production caused educational reform, that urbanization caused school bureaucracy, or that capitalism caused increased enrollments. We did not start with a more elaborate general model; rather we began with a series of problems to explore, explorations for which we formulated dozens of lower-order hypotheses. For example, we supposed that if a child's father was Irish he would be less likely to go to school at a given age than the child of a native-born father of the same occupational group (which proved true), and, that if a community spent more money on pauper relief, it would also spend more on schools (which proved false). We hypothesized that predominantly commercial towns would be as assiduous and more successful than predominantly manufacturing towns in pursuing longer public school sessions and higher enrollment rates (which proved true); and we imagined that a legislator from a town that evidenced more religious content in its public school curriculum would be more likely to vote to abolish the state Board of Education, which was associated with latitudinarian religious attitudes (which proved false). These studies, then, were not generated by an a priori systematic hypothesis, or a general theory of social change, but rather by a series of questions probing the relationship between various aspects of social development and various aspects of schooling. We have pursued these questions by studying quantitative evidence--in the form of time series, ecological correlations, and aggregate patterns of individual behavior--and through qualitative evidence about people's perceptions, attitudes, and intentions. The result is not a new model but a complex description, a description that will be developed in the chapters and summarized in the concluding section of this report. It is more diffuse than a tight predictive model, but we also believe that it comes closer to capturing the complexity of educational development across different types of communities.

III. The Creation of a State System of Schools in Nineteenth-Century Massachusetts

Much has been written about antebellum school reform, particularly in Massachusetts. The broad program of educational expansion and consolidation advocated by reformers and school officials in that state succeeded to a remarkable extent. "Reform" consisted of many different desired changes in the quantitative, qualitative, and organizational dimensions of public schooling. Various of these reforms occurred at different times, and some were more important to some people than others, or to some communities than to others. Despite this diversity, the following list summarizes the major systematic changes in Massachusetts schooling during the nineteenth century, changes which eventually applied to almost all communities and groups:

-- increased enrollment

-- increased average daily attendance

-- increased length of school year

-- increased consolidation of control at the town and state levels

-- increased standardization, for example, of textbooks and subjects included in the curriculum

-- increased classification of students, through graded schools, leading to a clearly articulated curriculum sequence

-- increased differentiation of programs for particular groups who were considered problemmatic, for example, nongraded intermediate schools for working children

-- increased professional training for teachers

-- increased supervisory personnel over teachers

-- increased authority over children for teachers

-- increased formal equality of access for females and blacks

-- increased expenditures per student, leading both to improved physical facilities and to increased teacher salaries

Our studies are only incidentally about the motives and activities of the reformers who sought these changes. They are, rather, about the contours of the changes themselves, where they occurred, in what magnitude, and how various types of communities responded to demands for educational changes. By breaking down the vague notion of "educational reform" into a number of distinct educational variables, we were able to investigate how levels of educational activity related to other indicators of social and economic status. We have written, in sum, a history of educational expansion and systematization in nineteenth-century Massachusetts that is more concerned with actual developments in schooling than with the activities of reformers. We intend to pursue the complex relationships uncovered by this investigation in our continuing effort to understand the nineteenth-century genesis of public schooling.

IV. The Choice of Massachusetts as a Case Study

There are several reasons why we chose Massachusetts as a case study. First, Massachusetts was a leader in the first half of the nineteenth-century, both in economic development and in education, and it was so regarded by contemporaries. The state was untypical, in the sense that it systematized its schools, industrialized, and urbanized early and thoroughly. Yet, by the same token, it is a laboratory for studying the interrelationships between schooling and social change.

Second, the quantitative record is better for Massachusetts than for any other state. The statistics gathered there were better and earlier than in most states; equally important, very substantial files of this data had already been collected in machine-readable form before our study began. Thus, we had access not only to our large files, newly coded and key-punched with the assistance of the

National Institute of Education grant, but also to large files created by Maris Vinovskis in his work on Massachusetts fertility, and to the 1880 Essex County family data file created by Professors Tamara Hareven and Maris Vinovskis with Rockefeller Foundation support. If these quite elaborate sources of quantitative information did not give us more grasp, they at least gave us a great deal of reach.

Third, one cannot assess the validity of other studies of social change and education--many of which have centered upon Massachusetts, such as the works of Jonathan Messerli, Michael B. Katz, Samuel Bowles and Herbert Gintis, or Alexander Field--unless one examines the same historical record. This requirement, of course, can lead to too many books about Massachusetts, and we certainly support the need for similar case studies of other states and other areas. However, scholars are still a long way from understanding even the most basic trends and social correlates in nineteenth-century Massachusetts education, and the lively debates about this important state seem still fruitful.

V. The Need for Quantitative Educational History

When a historian investigates literary sources in the attempt to relate various aspects of social change, he or she relies upon the perceptions of historical observors. For example, an elite reformer might link poverty and the need for education in a public speech or in private correspondence. If the association occurs frequently and represents a widespread contemporary perception, a plausible case may be made that schooling efforts were generated to some extent by poverty. A quantitative approach allows a different perspective, and, to some degree, provides a check on the more impressionistic links. In this approach, used by historians long before the invention of computers, the historian asks: was the incidence of poverty associated in any measurable way with levels or types of schooling in variour communities or at different time periods? Both methods have drawbacks and advantages. One of the most salient contributions of quantitative correlations is negative, that is, in the absence of a correlation causal links are rendered implausible. Beyond this negative function, correlation and more sophisticated multivariate analysis can be suggestive about causal relationships. If statistical analysis uncovers persistent strong links between different social phenomena, the historian should pursue the possible reasons for those links with all of his or her skills, evidence, and insight. Quantitative study also allows us to investigate the relationships between perceptions and behavior in the past, and between elite initiatives and popular response.

These studies are about aggregate trends, about towns and their educational characteristics, and about groups of families and their children's enrollment patterns. They are not, to any great extent, about the experiences children had within the schoolroom; nor are they about the ideas of prominent school reformers and their opponents. Furthermore, these studies are not about the effects of schooling on children; nor do we take a position on whether the creation of a state system of public education in Massachusetts was a just or an effective development. We believe that these questions are important, and we shall continue to pursue them in our future work in educational history; but we also believe that the first prerequisite for a sound social history of American education is to establish who went to school, where, for how long, how those patterns relate to other measurable community or family characteristics, and how the relationships changed over time. It is to these questions that the quantitative studies gathered here are directed.

VI. Preview of the Chapters

As a necessary backdrop to the period of public school systematization after 1840, Chapter II addresses the difficult question of how many children went to school in the period 1800 to 1840 and what the probable trends were in school enrollments during that essentially pre-statistical era. Chapter III continues this effort for the mid-nineteenth-century, 1840-1880, for which many more figures are available but numerous interpretive problems remain. Chapter IV broadens the analysis, examining not only trends over time but across space; specifically, this chapter examines the concept of urbanization and its relation to educational growth. Chapter V features a roll-call analysis of the vote in the Massachusetts House of Representatives to abolish the state Board of Education, as a case study in the politics of school centralization. In Chapter VI we examine the changing relationship between families and schools, particularly with reference to the education of young children. Again, trends across time and space are examined. Chapter VII analyzes the age of school entry and school leaving for children of different social groups, using a large sample of inhabitants in eight Essex County towns in 1860 and 1880. Chapter VIII goes beyond school attendance patterns and patterns of political support to examine the development of public schooling in a single rural community, Boxford, Massachusetts. A second case study, quite in contrast, is found in Chapter IX, on Lynn. Chapter X, the concluding chapter, recapitulates the major conclusions of the various studies and makes some suggestions about their relevance for creating a more sophisticated social history of American public schooling.

FOOTNOTES TO CHAPTER I

1. The classic example of this point of view is Ellwood P. Cubberley, *Public Education in the United States* (Boston, rev. ed., 1934).

2. Some of the key works on the nineteenth century are: Michael B. Katz, *The Irony of Early School Reform: Educational Innovation in Mid-Nineteenth Century Massachusetts* (Cambridge, 1968); Stanley K. Schultz, *The Culture Factory: Boston Public Schooling, 1789-1860* (New York, 1973); Carl F. Kaestle, *The Evolution of an Urban School System: New York City, 1750-1850* (Cambridge, 1973); Samuel Bowles and Herbert Gintis, *Schooling in Capitalist America* (New York, 1976); and David B. Tyack, *The One Best System: A History of American Urban Education* (Cambridge, 1974).

CHAPTER II

COMMON SCHOOLING DURING AMERICAN EDUCATION'S "SLEEPY" PERIOD: ENROLLMENT LEVELS IN THE NORTHEAST PRIOR TO 1840

Leading political theorists of the Revolutionary generation considered an educated citizenry essential to the survival of the American republic. Some, like Thomas Jefferson and Benjamin Rush, devised plans for systems of common schooling.[1] But these plans generally came to naught, and the discussion of them has too long dominated educational historiography of this period. If the fragile American nation could be saved only by an educated citizenry, and if an educated citizenry could be maintained only by a state system of common schools, why were two generations of town officials and state legislators so lackadaisical about providing systematic, universal education? Why was there a lag of forty years between the creation of the republic and the creation of a state board of education in Massachusetts?

Perhaps the public did not share the anxieties of the Founding Fathers about the American polity. Perhaps they shared their anxieties but did not share their faith that schooling would preserve republican institutions. Perhaps, on the contrary, they agreed with both propositions but believed that schooling in their society was ample and that most children received the kind of rudimentary intellectual and moral training the political theorists had in mind, even though much schooling was neither publicly controlled nor free. We believe that this third explanation best fits the evidence, and we believe that research into the educational history of the early United States should, for its central focus, turn from the unfulfilled plans of political elites to local patterns of schooling and other forms of education, that is, from the intellectual to the social history of education. Economic historians, like historians of the family and childhood, wish to know more about actual patterns of mass education than about the impressions of reformers, and although we have long known that the two are not synonymous, it has been difficult to get at the educational experiences of ordinary children in a pre-statistical age.

Americans' apparent indifference to the educational schemes of republican theorists in the early days of nationhood led to the myth of the "sleepy" period in our educational history. The illusion that there was little schooling prior to 1840 in the American Northeast can be traced to school reformers such as Horace Mann and Henry Barnard, who were hostile both to private schools, such as academies, and to district schools, which prevailed in the rural areas. They preferred the model of the mid-seventeenth-century New England town, where schools served the whole town and were required by colony-wide laws. As population dispersed, however, the district system had developed in rural areas; and in the eighteenth century urban development fostered private educational alternatives.[2] Mann revered the early Puritan system and considered both of the later developments to be part of a "deep sleep" interrupting New England's commitment to schooling.[3] This story was adopted by later educational historians who shared Mann's commitment to centralized public schooling. The evolution of American public schooling was checked by the Revolutionary War, wrote Ellwood Cubberley, and "something like half a century of our national life passed before we note again the rise of a distinctively American educational consciousness and the development of distinctively American schools once more begins."[4] The study of educational legislation has led historians to similar conclusions; Elsie Hobson labeled the period 1795 to 1810 "a period of educational decadence in Massachusetts and Connecticut."[5] Historians have criticized Massachusetts' 1789 law for formalizing the district system, blasted Connecticut's 1795 law for vitiating local initiative, and lamented New York's 1795 law which provided matching funds, on a voluntary basis, because it was allowed to expire in 1800.[6]

The notion of "decline" in schooling during the early years of the nation, then, is supported by a venerable historical tradition. Yet even if we wipe away these preconceptions and set out tabula rasa to assess the extent of schooling in the early republic, difficulties loom. Precisely because schooling was unregulated and voluntary in the early national period, records are scarce. It is not accidental that the appearance of the first systematic school statistics coincide with the educational reforms of the late 1830's and 1840's. The data were a crucial tool of the reformers in their public relations efforts. To get comparable data for the "sleepy" period from the 1790's to 1840 requires some hard digging and some cautious extrapolations, but it can be done.

A key criterion for the extent of schooling is the per cent of school-age children enrolled, so we shall concentrate on enrollment as the starting point in assessing assertions about the rise or decline of common schooling. If we wished to assess the "impact" or "influence" of schooling, we would need to know much more: daily attendance, length of school year, average number of years attended per child, the distribution of schooling patterns by social groups, the quality of instruction, the organization of the schools, and the curriculum. Even with all of this information it would be difficult to infer what children actually learned in schools. But the first task is to determine how many people were going to school. If total enrollment is accepted as a crude index of the extent of schooling, the thesis of a rise in common schooling during the 1830's or 1840's in the Northeast is open to challenge. Albert Fishlow, writing in 1965, questioned the assumption that the efforts of Horace Mann and his fellow reformers had increased the amount of education received in New England. Fishlow's regional figures for total annual enrollments between 1840 and 1860 showed a slight decline in New England, a slight rise in the Middle Atlantic states and more substantial gains in the South and West.[7] He concluded that the "common school revival" of the 1840's consisted principally of a shift from private to public schooling and the diffusion of higher schoolgoing rates to the less developed regions of the country, not a rise in the quantity of education in New England. Maris Vinovskis has refined the data for Massachusetts by controlling for age, and he has somewhat qualified Fishlow's denial of Horace Mann's impact on enrollment in his home state; but the main outline of Fishlow's argument about the period from 1840 to 1860 remains valid.[8]

More important for our present purposes, Fishlow also attempted to assess levels of education prior to 1840. Using scattered reports, and extrapolating for missing data, he produced a state-level comparison of annual enrollment in 1830 and 1840, concluding that "little change occured between the two dates." Table 1 reproduces Fishlow's figures for the two largest Northeastern states, New York and Massachusetts, both leaders in school reform, and in these states, there was even a decline in enrollment. Fishlow concluded: "what scattered reports are available suggest a more optimistic evaluation of the state of educational facilities prior to the reform efforts of the 1830's and 1840's."[9] This leads to the question of whether a substantial rise in enrollment occurred in these two states prior to 1830. Fishlow thought not. Though admitting that estimates for the years before 1830 are "more hazardous," he nonetheless concluded tentatively that "education was being prosecuted with comparable vigor over the whole period" from 1800 to 1830.[10] Relying chiefly on New York State data, this generalization is not only very speculative but very important, and it deserves to be pursued. It has ramifications for the administrative and political history of education as well as for the economic history of the new nation. Some recent historians, influenced by the reform failures of the 1960's, have questioned the efficacy or the desirability of state intervention in such activities as schooling. Because the enrollments of the early nineteenth century were the product of a mixed private-public, non-regulated mode of education, accurate estimates of school participation for different social groups and different regions prior to state systematization could be helpful in providing perspective on the necessity and the effects of intervention.[11] Economic historians are also interested in the magnitude and timing of shifts in school participation. Fishlow, for example, argued that estimates of increased schooling per capita between 1800 and 1840 were greatly exaggerated and that therefore we should be skeptical about any alleged contribution of education to rising productivity during this early period of industrialization.[12] E.G. West, to the contrary, has dated England's enrollment rise earlier than is traditional among English historians, thus resurrecting for England the very possibility Fishlow denied for America.[13] In short, if it proves true that enrollment levels were high in 1800 and did not rise substantially between 1800 and 1830, one might argue first, that state intervention in education was not necessary to maintain an educated citizenry or to disseminate basic intellectual skills, and second, that a connection between educational enrollment and rising productivity is doubtful.

Our purpose in this chapter is to assess Fishlow's basic hypothesis about annual enrollment rates, leaving aside until later two additional important factors in measuring the quantity of education--length of school year and average daily attendance--which he dealt with only incidentally. We shall analyze the existing scattered evidence for

TABLE 1: Annual school enrollment rates for Massachusetts and New York in 1830 and 1840

	1830		1840	
	Pct. of white children 5-19 enrolled	Pct. of white children 0-19 enrolled	Pct. of white children 5-19 enrolled	Pct. of white children 0-19 enrolled
Massachusetts	72.9[a]	54.7[a]	68.9	51.7
New York	73.8	55.4	69.4	52.1

a. 1832.

Source: Albert Fishlow, "The American Common School Revival: Fact or Fancy?" in Industrialization in Two Systems, ed. Henry Rosovsky (New York, 1966), Table 1, p. 43. We have converted his rates to percentage of the estimated population 0-19 for comparability with later tables.

New York and Massachusetts from 1790 to 1840, evidence which partially corroborates and partially refutes Fishlow's assertions about this period. Each enrollment ratio presented should be taken with a grain of salt. Not only are attendance figures collected in different ways from place to place and time to time, but even the estimates of the relevant school-age population differ, depending upon whether the figures are from state and federal censuses or from school officials. All one can do is to assemble as many examples as possible, standardize as nearly as possible, and hope to discern long-term trends that transcend the biases of the evidence.

We have achieved nominal comparability of our enrollment rates by stating each as a percentage of all children aged 0-19 (except where stated, blacks are included). This involved converting rates like Fishlow's, which were stated as a percent of children 5 to 19, and those from school reports that tabulated eligible children variously at 4 to 16, 4 to 15, or 5 to 15. In each case we converted on a simple arithmetic basis, assuming an equal number of children at each age. This procedure has the virtue of consistency and results in estimates that are usually close to the truth (when detailed figures by age are available).

One further caveat is required, because the enrollment rates are artificial in yet another way: the numerator and the denominator are not comparable. Enrollment figures (the numerators) capture all persons taught at schools during a year, including all who leave the area during the period as well as those who move in. Population figures (the denominators) in contrast, are not longitudinal. They catch the number of persons living in an area on a given day.

Expressing one as a per cent of the other, therefore--though commonly done by nineteenth-century educators and twentieth-century historians--is mixing apples and oranges and, obviously, overstates the per cent of school-age population enrolled in school on a given day.[14] That the enrollment rates are artificial creations should be recognized, but it need not devastate our analysis, for we are seeking relative comparisons and shifts over time, not absolute levels of enrollment. If we wished to test an assertion that political stability depended upon a certain amount of education, or that a certain level of enrollment would herald a takeoff in productivity, we would have difficulty assembling the required statistics. But we are interested in different questions: when, if ever, were there substantial increases in school enrollment during the period 1800 to 1840, and, in general, how does the "sleepy" period compare to the "revival" period in the northeastern United States?

Let us examine first the New York State enrollment data which Fishlow cited to support his contention of little or no increase in enrollments from 1800 to 1830. After arguing briefly that the legislative history of the northeastern states does not demonstrate a decline of commitment to schooling in the early national period, he stated:

> For the state of New York, fortunately, it is possible to be more precise. Its schools do show an increase in enrollment rates of some 25 per cent from 1815 to 1830... Note, however, that by 1823 the 1830 level had already been reached and that as early as 1798 a partial enumeration of school attendance suggests no great difference from the 1815 level.[15]

This is the entire extent of Fishlow's evidence for enrollments before 1830, and it is not quite clear what he was trying to argue from it. To argue, as he seems to, that there was no change from 1798 to 1815, then a tremendous rise between 1815 and 1823, after which there was no change up through the 1830's, not only contradicts his contention that 1800 rates were about the same as 1830 but is also incorrect. The 1798 data he cites cannot be translated into an enrollment rate at all, because the returns were partial, are now unavailable, and thus the relevant school-age population is unknown. Similar returns for 1800, however, appeared in the New York Assembly Journal, by town, and we have calculated the school-age population for the towns that returned enrollment reports, giving us a baseline figure against which to compare Randall's state-wide figures for the period 1815 to 1850. This 1800 rate, 37.1 per cent, is sufficiently impressive to cast doubt upon the notion of "decline," although we shall never know what eighteenth-century rate it might have "declined" from. But it is not high enough to support Fishlow's contention that there was little rise from 1800 to 1830. Indeed, using the same data Fishlow cited, plus our 1800 data, we can chart a steady increase from 1800 to 1830, by which date, if the figures are valid, school enrollment in New York state leveled off (see Table 2).

Must we, then, discard Fishlow's conclusion that enrollment rates from 1800 onward were so similar that education could not have contributed to increasing productivity? Must we conclude that during the "sleepy" period of our educational history enrollments were steadily rising in New York? Not necessarily, for Fishlow's discussion of education before 1840 confused publically-assisted schooling with schooling in general, that is, it entirely overlooked the private sector. This is strange, since this oversight biased his data against the point he wanted to make. Also, it was he who emphasized that the major development of the later period, 1840-1860, was a shift from private to public schooling, not an increase in enrollment.

Fishlow looked at Randall's New York State figures, treated them as if they represented all schooling in the state, and then glossed over a very substantial rising trend in enrollment. The question is not whether these data illustrate rising enrollment; they clearly do. The question rather, is whether these rising public enrollment rates reflect a rise in total school enrollment or a shift from unreported private to reported public enrollment, a distinction Fishlow made clear for the 1840 to 1860 period but left hanging for the crucial early national period.

To answer this question we must get beyond aggregate state reports of publicly-assisted schools in two ways. First, we must find some way to assess private schooling prior to 1840; such data are rare and fragmentary but are better than none. Second, we must recognize rural-urban differences in schooling of the early national period. The informal mode of education inherited from the eighteenth century operated very differently in large commercial towns and in small rural communities. Although dichotomies run the risk of oversimplification, it may help us to understand school enrollment in the early national period if we think of two different institutional solutions to schooling needs in rural towns and large cities, institutional arrangements which resulted in characteristically different enrollment rates and which were affected differently by state intervention and assistance, which increased throughout the first half of the nineteenth century.

TABLE 2: Annual school enrollment rates for New York State, 1800-1850

Year	Number of scholars	Number of children 0-19 (est.)	Pct. of children 0-19 enrolled
1800	58,475	157,756[a]	37.1
1815	140,106	294,670	47.5
1820	304,559	530,447	57.4
1825	425,566	660,629	64.4
1830	499,424	830,830	60.1
1835	541,401	902,276	60.0
1840	572,995	989,582	57.9
1845	736,045	1,153,242	63.8
1850	742,423	1,174,676	59.9

a. Whites only, 16 of 23 counties reporting. New York City is among the missing counties.

Sources: For 1800 enrollment figures, New York Assembly Journal (1798-1800), pp. 282-285; for population, Second United States Census: 1800, pp. 32-33. For 1815-1850, attendance and population figures, S. S. Randall, The Common School System of the State of New York (Troy, 1851), p. 91.

In both kinds of communities schooling resulted from a combination of governmental and parental initiative, which we might call "public" and "private," although the terms are anachronistic if applied with their current connotations to early American schooling. In small towns and rural villages there was relatively little independent entrepreneurial schooling and usually only one kind of town or district school. The combination of governmental and parental efforts concerned funding. Although New York State had a Common School Fund and a state Superintendent of Common Schools beginning in 1812, local schooling was still financed largely by client fees called rate bills. In little Glenville, New York, for example, bills paid by parents in the 1830's equaled from one to three times the amount of public monies for schooling.[16] Statewide, the amount of rate bills exceeded all public monies until 1840, when the receipts from the United States Deposit Fund boosted state aid to local schools.[17] In Massachusetts there were no rate bills, but communities typically lengthened short school sessions by assessing parental fees "to prolong the common schools," and those who did not pay could not send their children. This practice was still widespread in the 1840's.[18] Entirely free and "public" education for all children came to most rural communities only after the middle of the nineteenth century.

In larger towns the mixture of governmental and parental initiative was different. It was not characterized by varying contributions to a single set of common schools, but by the creation of diverse, separate institutions, more accurately labelled charity schools and pay schools, rather than public and private, since charity schools were variously under the control of churches, town councils, and voluntary benevolent societies. We shall nonetheless use the word private here (since the word is so engrained in discussions of economic history) to refer only to the pay schools (whether incorporated or not) supported entirely by tuition payments by clients. In Schenectady and Albany as well as New York, in Salem and Newburyport as well as Boston, charity schools, Lancasterian free schools, infant schools, and Sunday schools supplemented dame schools, academies, female seminaries and other independent day schools. Early state statistics either underestimate or entirely omit schooling in such areas (New York and Boston, significantly, are missing from the earliest state reports of New York and Massachusetts).

A glimpse of the extent of enrollment under one such informal diverse mode of schooling is possible. Figures for New York City in 1796 were generated by New York's 1795 law providing matching funds to schools offering common education. The Common Council eventually decided to distribute the monies only to the religiously affiliated or corporate charity schools, but in the process of that decision they made a survey of the city's independent schoolmasters as well. Carl Kaestle analyzed the extant enrollment lists and by extrapolation estimated that 52 per cent of all children over five and under fifteen were enrolled in New York's private and public schools in the 1795-76 school session.[19] Converted, according to our assumptions about population, these data yield an enrollment rate of 24.7 per cent of all children zero to nineteen. This falls far short of the 37.1 per cent rate for the state just four years later and is much less than the typical 50-60 per cent state-wide rates of the period after 1830. More striking, however, is the comparison with later rates available for the city itself, which in the succeeding 50 years only exceeded the 1796 rate by about seven per cent (see Table 3). These figures were the basis for Kaestle's conclusion, similar to Fishlow's, that the major change in New York City schooling between 1800 and 1850 was not in the rate of enrollment but in the numbers of students and the organization of schooling. In response to population growth, immigration, and other social changes, schooling became predominantly public and standardized. Moreover, the segregation of school children by social class that one might have expected of a mixed voluntary private-public school situation, may have been no greater (except for blacks) in 1796 than in 1850, when many wealthy parents still supported private alternatives and some children of poor parents still attended no school. Indeed, the segregation may have been less than today, when--despite universal compulsory attendance--class and racial segregation are reinforced by residential segregation as well as by private schooling. Kaestle analyzed the extant 1796 enrollment lists and found considerable overlap and considerable range in the occupational and wealth status of charity school students' parents when compared to the parents of students at the common pay schools of the city. The occupational status of parents sending their children to school (both types combined) roughly approximated the occupational structure of the city as a whole, although we may surmise that the least well-off within each category were less likely to send their children to school (see Table 4). The New York City data suggest, then, that the mixture of charity and entrepreneurial schooling characteristic of cities in the late eighteenth and early nineteenth centuries resulted in enrollment rates similar or slightly lower than rates in the mid-nineteenth century.

Scattered enrollment figures for private and public students in Salem, Massachusetts, reinforce the impression that the shift from private to public, and the development of a state-assisted public school system, had little effect upon the proportion of children enrolled in northeastern commercial cities. Salem in 1820, like New York in 1796, had a well-developed dual network of independent pay school and free schools, although its free schools, accommodating about half of the schoolgoers, were operated by the town, a practice inherited from the colonial period. As this public sector grew in Salem schooling, the total enrollment remained remarkably stable (see Table 5). Enrollment records for Boston tell the same story. In 1826, when 44.5 per cent of all children zero to nineteen were in some school, 32.6 per cent of all school children were private. The 1840 enrollment rate was 39.2 per cent, and by 1850, when the per cent in private schools had dropped to 12.2, the overall enrollment rate remained at 45.4 per cent.[20]

These data for large commercial towns do not support the notion of a substantial school enrollment increase in the period before 1840. But most people did not live in cities; they lived in smaller towns and rural villages. It remains, then, to assess whether in these towns, which in large part accounted for the state-wide public school enrollment figures, increasing enrollments can be attributed to a shift from private to public schooling prior to 1840. To do this we shall dissect the earliest surviving state returns for both New York (1800) and

TABLE 3: Annual school enrollment rates for New York City

Year	Pct. of children 0-19 enrolled	Pct. of school children in private schools
1796	24.7	89.7
1829	32.0	62.2
1840	21.9	not given
1850	26.3	18.3

Sources: for 1796, Carl F. Kaestle, The Evolution of an Urban School System: New York City, 1750-1850 (Cambridge, Harvard University Press, 1973), Table 10, p. 52; for 1829 and 1850, Kaestle, Evolution of an Urban School System, Table 12, p. 89; for 1840, Sixth Census of the United States (Washington, Blair and Reives), p. 115.

TABLE 4: Occupations of New York City School Children's Parents, 1796

Occupational category	Number of parents	Percent of school parents	Percent of all workers in directory
Laborer	4	2.4	5.5
Mariner	8	4.8	3.7
Cartman	21	12.6	9.5
Skilled craftsman	66	39.5	43.1
Clerical worker	10	6.0	2.0
Proprietor	31	18.6	14.3
Professional	0	0	4.0
Merchant	13	7.8	13.0
Other	14	8.4	5.4
Total	167	100	100

Source: Kaestle, Evolution of an Urban School System, Table 11, p.54.

TABLE 5: School enrollments in Salem, Massachusetts, 1820-1875

Year	Percent of children 0-19 enrolled	Percent of school children in private schools
1820	41.3	50.0 (est.)
1827	46.6	57.8
1834	41.4	49.6
1837	44.7	56.3
1875	41.8	17.9

Sources: Attendance figures, for 1820, public schools from Board of Education Minutes, MS, Salem Public Schools, Superintendent's Office, , private attendance estimated assuming a minimum of 50% private, on the basis of later known figures; for 1827, *Salem Register,* May 21, 1827; 1834, Board of Education Minutes, November 25, 1834; 1837, *Salem City Directory for 1837* Population figures from the federal census and the Massachusetts census of 1875, extrapolated arithmetically for 1827, 1834, and 1837.

Massachusetts (1826).

When the New York State school returns of 1800 are calculated by town size (Table 6), they demonstrate a durable generalization for schooling in the Northeast that applies from 1800 until well after the middle of the century: annual school enrollment rates are negatively associated with community size. Except for the smallest category of towns (under 1,000 population), where long distances from farm to school may have inhibited enrollment, smaller towns exhibited higher school enrollment rates than larger towns and cities. This may surprise students of other societies, particularly traditional societies, but not those familiar with the early American district school, which served a social as well as an educational function, and whose relatively brief summer and winter sessions accommodated the seasonal nature of children's agricultural work.

The earliest school returns for Massachusetts confirm the pattern, and reinforce our conviction that the shift from private to public schooling cannot account for more than a small portion of the enrollment increases outside of commercial cities. Table 7 reveals the systematic relationship between town size and school enrollment in Massachusetts in 1826. The public school enrollment rates display a regular negative association with town size except that Salem's public school attendance rate is lower than Boston's. This is explained by Salem's far greater proportion of students in private school. The column for enrollment rates at public and private schools combined reverses the rank order of Boston and Salem and otherwise displays a regular progression from high enrollment rural communities to low enrollment urban communities, except for the smallest towns, which had very little private schooling to augment the town schools. Also, the gap between the highest rate and the lowest rate is less when private schooling is added in. The private sector, more extensive in the cities, had a somewhat levelling effect on total enrollment rates, although the rural-urban contrast is still striking. Most important, the proportion of private schooling is very small in Massachusetts towns under 2,500, where a majority of the population lived. If New York was similar to Massachusetts in this regard, it seems unlikely that the shift from private to public could account for the large public enrollment gains we discovered in New York State.

Extant records for school attendance in small upstate New York towns begin too late to chart a rise in school attendance during the period from 1790 to 1820, but they do conform to Randall's figures and to our assertion that rural rates, unaffected by entrepreneurial schooling, were high and stable from the 1820's forward. Table 8 gives enrollment rates for Glenville, a small village across the Mohawk River from Schenectady. Established as a town in 1820, when its population was 2,514, Glenville operated district schools (eight in 1820, sixteen by 1840). Despite annual fluctuations, Glenville's high and level rates from 1823 to 1841 portray a town unaffected by the decline of private education (there is no record of any private schooling in Glenville) or increasing state aid (which failed to alter Glenville's already high enrollments).

Our conclusions about enrollment rates may be stated in terms of a rural-urban contrast. The shift from private to public schooling

Table 6: School enrollments for New York State in 1800, by town size

Town size	Number of towns in the state	Number of towns reporting	Mean enrollment	Standard deviation	Standard error
0- 999	101	12	33.1	13.3	3.8
1,000-2,499	115	52	38.7	16.5	2.3
2,500-4,999	70	43	36.7	13.9	2.1
5,000-9,999	5	3	27.5	3.3	1.9
New York City[a]	1	1	24.7	----	---
Total (excluding New York City)	281	110	37.1		

a. Data for 1796. New York population (est.)=46,397.

Sources: For New York City, Kaestle, Evolution of an Urban School System, p. 52. For New York State, New York Assembly Journal (1798-1800), pp. 282-285 and Second United State Census (Washington, 1800), pp. 32-33.

TABLE 7: School enrollments for Massachusetts in 1826, by town size

Town size	Number of towns reporting	Percent 0-19 in public schools			Percent 0-19 in private and public schools		
		Mean	Standard deviation	Standard error	Mean	Standard deviation	Standard error
0-1249	50	75.9	15.2	2.1	81.7	17.9	2.5
1250-2499	48	71.7	12.9	1.9	82.1	21.5	3.1
2500-4999	13	56.1	24.1	6.4	74.1	31.7	8.5
5000-9999	7	37.9	22.9	9.3	54.7	22.1	8.4
Salem (pop=12,875)	1	20.9	---	---	49.5	---	---
Boston (pop=54,154)	1	30.0	---	---	44.5	---	---

Source: Massachusetts, Secretary of the Commonwealth, School returns for 1826, MS, Massachusetts State Library, Annex, Vault.

was gradual but decisive in commercial cities of New York and Massachusetts between 1800 and 1850. Moreover, it accounts almost entirely for the rising public enrollment rates in those cities, while the combined public-private rates were stable, and considerably lower than in smaller communities. The shift from private to public schooling, our data suggest, was not nearly as important in small towns as it was in the cities. Some small towns had private academies, and their decline was much applauded by antebellum reformers; but the shift could account for only a part of the steady rise in official enrollment figures. More important was the increasing substitution of governmental financing for parental financing, yet the influence of government intervention on total enrollment rates may still be doubted, for the most important state developments--for example, the dramatic increase in state aid in New York after 1839, or the activities of the state Board of Education in Massachusetts after 1837--occurred after state-wide enrollment rates had leveled off.

Thus far we have discussed only enrollment rates; but reformers like Horace Mann were more concerned to promote regular attendance and longer school sessions than they were to enroll the small percentage of nonattenders. Similarly, economic historians interested in human capital formation want to know the average number of days of schooling experienced annually per child, not just the number of children enrolled each year. Relying partly on inferences from expenditure data, Fishlow argued that "neither average daily attendance rates nor length of school year is likely to have shown rapid change" before 1840.[21] Accurate estimates await further research on these variables. In the meantime, we believe that substantial increases may have occurred in school length and average attendance, as they did in total enrollment, during the period 1800 to 1830. The 1826 Massachusetts returns show a clear association between length of school year and town size (Table 9). If this cross-sectional association persisted over time, the state-wide average length of school should have increased as the state urbanized. Data from the period 1840 to 1880, which we present in the next chapter, support this inference. The state-wide average length of public schools in Massachusetts rose from 150 days in 1840 to 192 days in 1880. Our estimate of days of school attended per person 0-19 in Massachusetts, combining public and private schooling, shows an increase from 60 days in 1840 to 72 days in 1880. We see no reason presently to assume that such trends did not also characterize the preceding forty years.

Our study of enrollment rates does not suggest that the old derogatory characterization of the "sleepy" period should be replaced by nostalgia for the good old days when widespread schooling resulted from parental, local, and entrepreneurial initiative. We do not wish to make a normative judgment here as to whether more schooling for more people is a Good Thing, nor whether more state intervention was desirable in American educational history. But we do believe that our examination of the evidence re-establishes the capacity of the educational institutions of the late eighteenth and early nineteenth century to increase the extent of schooling in the decades prior to the common school "revival." Thus we cannot rule out the possible contribution of education to rising productivity, whether through intellectual training or attitude formation.[22]

TABLE 8: Enrollment rates for Glenville, New York, 1823-1838

Year	Amount of tax money received (half state, half local)	Number of children enrolled	Percent of children 0-19 (est.)
1823	$293	660	41.7
1824	293	---	----
1825	293	697	45.1
1826	293	774	50.4
1827	289	709	42.2
1828	289	684	41.9
1829	288	785	47.9
1830	294	747*	47.0
1831	294	682	44.9
1832	260	736	48.5
1833	260	726	48.4
1834	261	640	44.0
1835	260	778	48.4
1836	263	---	----
1837	306	---	----
1838	506	691	48.5
1839	806	715	47.4
1840	768	753	50.8
1841	764	688	47.1

*One partial district not reporting (excluded also from school-age population estimate)

Source: Reports of the Commissioners of Common Schools in Glenville, 1821-1841, MS in the possession of Mr. Donald Kieffer, historian of Glenville. I am grateful to Mr. Kieffer for providing me with a copy of these reports.

TABLE 9: Length of public school session in Massachusetts, 1826, by town size

Town size	Number of towns reporting	Average length of school per disctrict (days)		
		Mean	Standard deviation	Standard error
0-1249	50	127	36	6
1250-2499	48	143	80	13
2500-4999	13	172	104	31
5000-9999	7	204	34	15

Source: Massachusetts, Secretary of the Commonwealth, School returns for 1826, MS, Massachusetts State Library, Annex, Vault. Length of school session not reported for Salem or Boston.

Two quite different unregulated modes of schooling, characteristic of commercial cities and rural communities had by 1800 resulted in enrollment rates that were high compared to other nations but which were still capable of expansion in the period 1800 to 1830. Per capita consumption of schooling in the American northeast was probably increasing substantially before the reforms that began in the late 1830's, although the exact dimensions are as yet unknown. Increasing state encouragement and intervention helped boost educational consumption even further in the period 1840 to 1880, not by increasing enrollments but by increasing school sessions and daily attendance. If enrollment is our index, 1800 to 1830 was more a "sneaky" than a "sleepy" period. Quietly, and with little regard for later historians, Americans in the northeast sent their children to school in increasingly greater numbers. The magnitude of the increase is undetermined, but it was substantial, even when private schooling is accounted for, and it took place not in the cities but in the towns and villages of the hinterland.

Footnotes

[1] Gordon C. Lee, ed., *Crusade Against Ignorance: Thomas Jefferson on Education* (New York, Teachers College Press, 1961), pp. 81-92; Frederick Rudolph, ed., *Essays on Education in the Early Republic* (Cambridge, Harvard University Press, 1965), pp. 1-25 and *passim*.

[2] Harlan Updegraff, *Origins of the Moving School* (New York, Teachers College Bureau of Publications, 1908); Robert F. Seybolt, *Source Studies in American Colonial Education: The Private School* (Urbana, University of Illinois Bulletin XXIII, 1925); Carl F. Kaestle, *The Evolution of an Urban School System: New York City, 1750-1850* (Cambridge, Harvard University Press, 1973), chapter 1; Lawrence A. Cremin, *American Education: The Colonial Experience, 1607-1783* (New York, 1970), Chapters 16 and 17.

[3] Massachusetts Board of Education, *Ninth Annual Report* (Boston, 1846), p. 61.

[4] Ellwood P. Cubberley, *Public Education in the United States* (Boston, rev. ed., 1934), p. 76.

[5] Elsie G. Hobson, *Educational Legislation and Administration in the State of New York, 1777-1850* (Chicago, University of Chicago, 1918), pp. 8-9.

[6] George H. Martin, *The Evolution of the Massachusetts Public School System* (New York, 1894), pp. 92-93; John W. Dickinson, "Educational History of Massachusetts," in William T. Davis, ed., *The New England States: Their Constitutional, Judicial, Educational, Commercial, Professional. & Industrial History* (Boston, 1897) IV, p. 1853; Bernard J. McKearney, A Study to Determine the Factors Responsible for Connecticut's Loss of Leadership in the Common School Movement between 1820 and 1850, (unpublished Ph.D. dissertation, University of Connecticut, 1966), p. 133; Samuel S. Randall, *History of the Common School System of the State of New York* (New York, 1871), chapter 1; Edward A. Fitzpatrick, *The Educational Views and Influence of DeWitt Clinton* (New York, Teachers College Bureau of Publications, 1911), p. 43; Alice F. Tyler, *Freedom's Ferment: Phases of American Social History from the Colonial Period to the Outbreak of the Civil War* (Minneapolis, 1944), p. 235.

[7] Albert Fishlow, "The American Common School Revival: Fact or Fancy?" in H. Rosovsky, ed., *Industrialization in Two Systems* (New York, 1966), Table 2, p. 49.

[8] Maris A. Vinovskis, "Trends in Massachusetts Education 1826-1860" *History of Education Quarterly* 12 (Winter, 1972), 501-529. See Chapter 3 below.

[9] Fishlow, "Common School Revival," p. 42.

[10] Fishlow, "Common School Revival," p. 46.

[11] The thesis that state intervention in American schooling was not in the interests of common people is best exemplified by Michael B. Katz, The Irony of Early School Reform: Educational Innovation in Mid-Nineteenth Century Massachusetts (Cambridge, Harvard University Press, 1968) and Alexander Field, Educational Reform and Manufacturing Development in Mid-Nineteenth Century Massachusetts (Unpub. Ph.D. dissert., University of California, Berkeley, 1974). E.G. West advances the thesis that state intervention was undesirable and unnecessary in England in his recent Education and the Industrial Revolution (New York, Barnes and Noble, 1975).

[12] Fishlow, "Common School Revival," p. 42.

[13] West, Education and the Industrial Revolution, p. 256.

[14] A more genuine ratio would be the average enrollment over the school-age population, but that statistic is rarely given in school reports. See Chapter 3 below.

[15] Fishlow, "Common School Revival," p. 47.

[16] J. Stephen Hopkins, Schenectady: A Case Study in the Development of Education in New York State from 1780 to 1854, unpublished honors thesis, Union College, 1965, p. 85.

[17] Samuel S. Randall, The Common School System of the State of New York (Troy, 1851), p. 91.

[18] See, for example, Massachusetts Board of Education, Fourth Annual Report (Boston, 1841), pp. 35-37.

[19] Kaestle, Evolution of an Urban School System, p. 51.

[20] Enrollment and population figures for 1826 are from Massachusetts Secretary of the Commonwealth, School Returns for 1826, MS, Massachusetts State Library, Annex, Vault; for 1840, Sixth Census of the United States (Washington, 1841), pp. 46-47; for 1850, Seventh Census of the United States (Washington, 1853),

[21] Fishlow, "Common School Revival," p. 48.

[22] See Maris A. Vinovskis, "Horace Mann on the Economic Productivity of Education," New England Quarterly 43 (December, 1970), 550-571.

CHAPTER III

TRENDS IN MASSACHUSETTS SCHOOL ATTENDANCE,

1840-1880

Introduction

> Is it not a fearful thing to contemplate that so large a portion of our children passed through the last year, without the advantages of any school, public or private? . . . What would be said, if we saw a large portion of our fellow citizens treasonably engaged in subverting the foundations of the republic, and bringing in anarchy or despotism?[1]

So wrote Horace Mann in 1846, expressing a constant preoccupation of nineteenth-century public school advocates. The Lawrence school committee complained in 1854 that truant children received their education in the streets, "where the violation of every moral precept and duty form the morning and the evening lesson." "Show me a member of a common school who adheres to an unflinching purpose of punctuality and constancy," declared the chairman of the Chicopee school committee, "and I will show you one who lays a strong hold on the highest success in life." Topping Chicopee's honor role in 1861 was champion school attender Phebe Howard, who had attended 107 weeks without an absence.[2]

State and local school reports in Massachusetts abound with concern about who was attending school, at what age, whether public or private, how regularly, and for what period of the year. Social historians interested in the experiences of children in school must begin by asking the same questions. It is only a starting point, but a necessary one. However, as we have seen, serious difficulties arise in determining who was in school in the nineteenth century. Even for the period after 1840, when most states were collecting detailed education statistics, there are numerous obstacles to constructing valid long-range time series on school attendance. The purpose of this Chapter is to discuss some of these problems and to present revised estimated trends in Massachusetts school attendance from 1840 to 1880.[3]

Complexities and Confusions in School Attendance Rates

The difficulties may be summarized under four general headings: (a) confusion of different types of attendance figures, (b) noncomparability of annual school enrollment figures with cross-sectional census figures, (c) shifts in required reporting categories over time, and (d) the unreliability of private school data.

(a) Types of attendance figures

School participation figures are of two basic types: enrollment data, which express the number of children participating in a system at some time during a given period, and attendance data proper, which tell us the regularity of participation, that is, the average daily attendance, or the number of children who attended a certain number of days of school. Average daily attendance figures, combined with the length of school sessions in days, yield the average number of school days consumed per year per school-age child (or per capita), a statistic of some interest in comparing levels of education at different places or times.

It is not sufficient simply to say that nineteenth-century schoolmen were preoccupied with attendance. Demographically different towns developed different attendance problems. Concern for regularity of attendance was widely shared in rural and urban towns, but anxieties about non-enrolled children--those completely untouched by schooling--was characteristically an urban phenomenon.[4] Also, the different aspects of attendance changed at different rates over the century. A rise in total enrollment rates probably occurred between 1800 and 1830; after 1840 total enrollment levelled off and then actually declined. During the middle of the nineteenth century average daily attendance was stable and the length of school year rose substantially.[5] In the present chapter we examine these aggregate state-wide trends over time, as a first step toward assessing the impact of educational systematization on enrollment, attendance, and the amount of schooling consumed in Massachusetts during the middle decades of the nineteenth century.

Because there are many different types of enrollment and attendance figures, we must be careful not to combine or compare different types of statistics. For example, recent scholars have added the average enrollment, given for Massachusetts private schools, and total annual enrollment, given for public schools, to arrive at the total number of children attending school.[6] But, we have discovered, they are not the same statistic; therefore we have devised a ratio to convert average enrollment into estimated total enrollment; the rationale for this and other estimation procedures is given in Appendix B. Figure 1 displays and distinguishes between the four chief types of attendance figures available to nineteenth-century historians. Real values for these statistics, when available, occur in descending order, that is, the highest number would be all children enrolled during the year, and the lowest number would be the average daily attendance.

FIGURE 1: Types of Attendance Statistics

Statistic	Meaning	Usual Source
1. Total annual enrollment.	All children enrolling during the entire period.	Local and state school reports.
2. Percent of population who attended school during the year.	Of those present at the time of the census, the number who had attended any school in the previous twelve months.	State and federal family census returns.
3. Average enrollment.	The average number of children enrolled on a single day.	Local and state school reports (for Massachusetts private schools early in 19th century, for public schools in later 19th century.
4. Average daily attendance.	The average number of children going to school on a single day.	State and local school reports.

(b) Noncomparability of annual enrollment figures with school-age census figures

The most common attendance ratio, used both by nineteenth-century educators and recent historians, is the total annual enrollment divided by the number of children of school age. In general, the numerator, annual enrollment, includes all children moving in and out of schools--including those promoted as well as those entering and leaving the community--while the denominator, the number of children of school age in the community, is from a census, one point in time, which does not account for transience. Thus, the ratios are artificially inflated, resulting commonly in so-called enrollment rates of over 100 percent, routinely included in nineteenth-century reports but usually attributed to the double counting of individual children moving within the system, rather than to the basic problem, the noncomparability of the longitudinal enrollment figure and the snapshot population figure.[7]

Average enrollment figures (which would be comparable to census figures) are rarely available, and conversely, census figures for the number of children who lived in an area over a year's time (which would be comparable to annual enrollment rates), do not exist. Thus, it is necessary to live with the artificial statistic. It is not a measure of any absolute level of school participation but may be used to compare relative levels across space or time, assuming that mobility rates do not substantially differ in the communities being compared.[8]

A second problem arises from the daily mobility of schoolgoers. Children can cross district lines, or board, to attend schools in areas where they will not be counted among the population. Children from small towns without high schools frequently walked or rode to neighboring cities to school. For example, the Newbury, Massachusetts, school committee reported in 1850 that "34 students from this town are on the catalogue of the Putnam Free School," in Newburyport. Ten others attended Dummer Academy, and about fifteen attended other private schools in Newburyport. The same year Dracut reported, "The proximity of Dracut to Lowell afford the youth in Dracut good opportunity for attending the high schools in that city." School attendance by the teen-agers of these small towns would thus be underestimated in the official figures, for school committees were expressly instructed not to count them. Conversely, figures for the towns with academies and high schools were inflated by out-of-town scholars. South Hadley, for example, a town with only 381 public school students at all levels, hosted an additional 225 girls at the Mt. Holyoke Female Seminary.[9]

There is no way to correct systematically for the distortions caused in school attendance rates by mobility. We can only hope that out-of-district students are usually a small part of total attendance. The problem, obviously, is of greater impact for teen-agers than for young children. Also, the smaller the unit of analysis, the greater the problem. There is more distortion at the town level than at the state level, while at the intracity level (for example, in comparing wards) it is impossible to estimate accurately the relevant school-age population. In sum, enrollment ratios are beset by problems stemming from the noncomparability of schooling figures and population figures, problems which should be recognized but which, for the most part, cannot be resolved.

(c) Shifts in required reporting categories over time

As state school officials came and went, and as their policy interests shifted, they changed the educational items on which towns were required to report. Age categories and other definitions shifted, creating discontinuities in long-range series of school statistics. For some states, such as Wisconsin, numerous inconsistencies in reported categories over time have made the creation of long-range time series on matters like expenditures and teachers virtually impossible. For Massachusetts, the problem has necessitated the kind of statistical estimates and extrapolations discussed below in Appendix B.

The major discontinuity in the available Massachusetts data occurred when Barnas Sears succeeded Horace Mann as Secretary of the state's Board of Education. For his second annual report (1849-50) Sears changed the span of school-age children from four to sixteen to five to fifteen, he ceased asking for the length of session of private schools; and he switched from the private to the public category those public schools kept open by subscription beyond the agreed session, the so-called "schools kept to prolong the common schools." The latter change is an example of an arbitrary reporting change that could be misinterpreted as an historical change, for it created the illusion of a dramatic decline in enrollment in private unincorporated schools in a single year. In 1848-49 the average enrollment reported for all such schools was 27,583; in 1849-50, after Sears changed the instructions, the average enrollment dropped to 19,534. Actually, Mann and Sears both opposed the long-standing practice of prolonging the common school session by subscription, which accounted for a large share of the so-called "private" education in Massachusetts before 1850, and the practice did decline as increasing public funds for education allowed increasingly longer regular public school sessions, but the decline was not as dramatic as is suggested by the official enrollment figures, which first aggregated the prolonged common schools with other unincorporated private schools and then, after 1850, lumped them with the tax-supported public schools. Because the shift from private to public schooling is one of the most important trends in nineteenth-century education, we have developed a detailed hypothetical picture of the real trends in private and public education from 1840 to 1850, controlling for Sears' artificial shift of the "prolonged" common schools.

(d) The unreliability of private school data

Private schools were not required to report to the Massachusetts Board of Education. Figures on private schools were collected or estimated by local school committees. In his first annual report, Barnas Sears warned that "the number of children who receive their education in private schools, or at home, is not accurately ascertained. Those who know the summary manner in which committees often arrived at their conclusions in respect to this particular, will use some degree of caution in reasoning from such data."[10]

The paucity and unreliability of private school attendance data is particularly unfortunate in view of two important present concerns about the history of American education: the effect of government intervention either in increasing total school attendance or in shifting control from private to public schools (two quite distinct processes difficult to separate without adequate private school data), and the growth of the Roman Catholic parochial school system as an alternative to the Protestant-biased public school system.

One cannot create statistics where none exist, though one can sometimes tease enough scattered figures from local sources on private and parochial schools to construct time series where no systematic information had previously been collected.[11] Short of making more such expeditions to unearth the facts of private attendance we should keep two generalizations in mind: first, school attendance and public school attendance are quite different matters, so we must take care to avoid making generalizations about the former on the basis of data only for the latter.[12] Second, because figures for private schooling are probably better for later decades than for earlier, we must acknowledge that recorded trends in total enrollment may be biased, underestimating schooling in the early nineteenth century.

The Dilemma

Taking all of these complications together, we conclude that alleged trends in school attendance may depend more upon the choice and interpretation of extant data than upon the reality of schooling in the nineteenth century. The margin of error due to the ambiguities and incompleteness of the data is probably greater than the magnitude of most of the trends we are talking about. Thus, to study attendance rates without dealing as explicitly and as sensitively as possible with these problems is not valid and may lead to generalizations no better founded than impressions about attendance based on traditional lettristic sources.

On the other hand, to go into the details of these data problems not only involves us deeper and deeper in a morass of uncertainty, but risks the loss of all readers save the most ardent specialists, due to acute boredom.

The Solution

We have constructed new time series of trends in Massachusetts school attendance during the formative decades of educational systematization. In doing so we have explored many of the problems cited above. We reserve to the appendices all the definitions, extrapolations, and explanations of procedure. There the interested reader will find documentation of the trends discussed in this Chapter. The appendices also illustrate some of the pitfalls possible in taking official nineteenth-century statistics at face value. Those who wish to forego the task of reading the appendices should take stern warning that there are discontinuities in the reported data on school attendance so that portions of our graphs for some years are based on reported data, while for other years the values are hypothetical projections of what we believe happened, based on study of the literary evidence, the instructions to towns for filing school returns, and the detailed manuscript town returns that were used to tabulate the state reports.

Principal Trends in Massachusetts Schooling, 1840-1880

State and local school officials wished to see more children in public schools more days each year. Their reasons, if we take them at their word, were: to impart to children the intellectual skills necessary for daily life in their society; to produce both intelligent and orderly citizens; to inculcate in children the values and discipline necessary to become productive and moral adults; and to keep children occupied, away from other less desirable activities. Our purpose here is not to assess their motives but to assess how well they succeeded in attaining their attendance goals, looking at the state as a whole during the decades when social changes were diverse and rapid and when state intervention in education increased substantially.

(a) The shift from private to public schooling

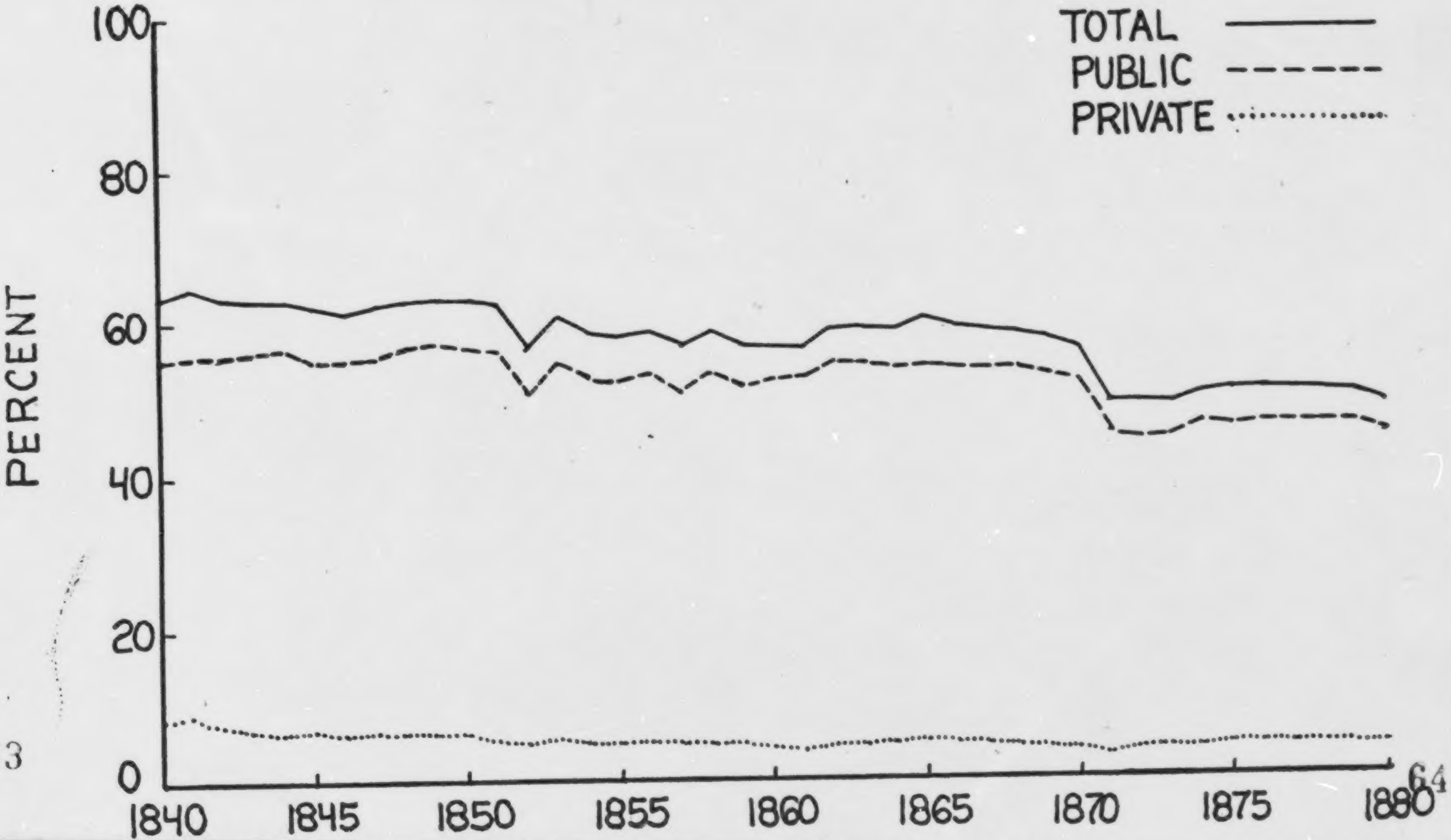
Mann and other reformers presented the defeat of private schooling as a major objective. Claiming that "perhaps a majority of the wealthier persons in the state" patronized private schools, Mann argued in his first report that this drew off the best scholars, withdrew the support of influential parents, led to depressed conditions in the public schools, and fostered a divisive system of sectarian education. "Of such disastrous consequences, there is but one remedy and one preventive. It is the elevation of the common schools."[13] Graph 1 and Graph 2 show that public school reformers succeeded in their campaign to decrease the proportion of school children in private schools. In 1840, 13.8 percent of all enrolled were in private schools; by 1880 the percentage was 8.4. However, the graphs also underscore Mann's basic argument, that the problem was not the quantity of students in private schools, which even by 1840 was quite a small proportion of the whole, but rather who they were, namely, the children of wealthy and influential parents, whose support was needed to develop a truly common school system. Seen in this light, the campaign against private schooling was only partially successful; socially elite parents (as well as others) continue to withdraw their children from the public schools even today. During our period, as Graph 2 shows, private schools held their own in absolute numbers; at the same time, the social composition of their clients almost certainly became more elitist.[14] What occurred was not, then, a victory over separate elite schooling, as Mann would have liked, but a conversion of low-priced pay schools, local academies, and subscription schools (kept to prolong the common schools) into town-controlled, tax-supported schools.

(b) Total enrollment

Graph 1 shows a slight but steady decline in total enrollment levels during these decades. This finding would be surprising to anyone who thought of the common school "revival" as an effort to herd unschooled children into schools. Of course, although the percent of children in school was declining, the public school system was expanding rapidly, just to keep up with the absolute increase in the number of school-age children and to absorb the relative enrollment shift from private to public schools. In Salem, which had a vigorous private school network in the early nineteenth century, the Mayor attributed increasing school expenditures in 1843 to the increasing population and to the shift to public schooling. He predicted that the school budget would continue to be a larger part of the city budget "until the result which seems inevitable should be reached, and all or by far the largest

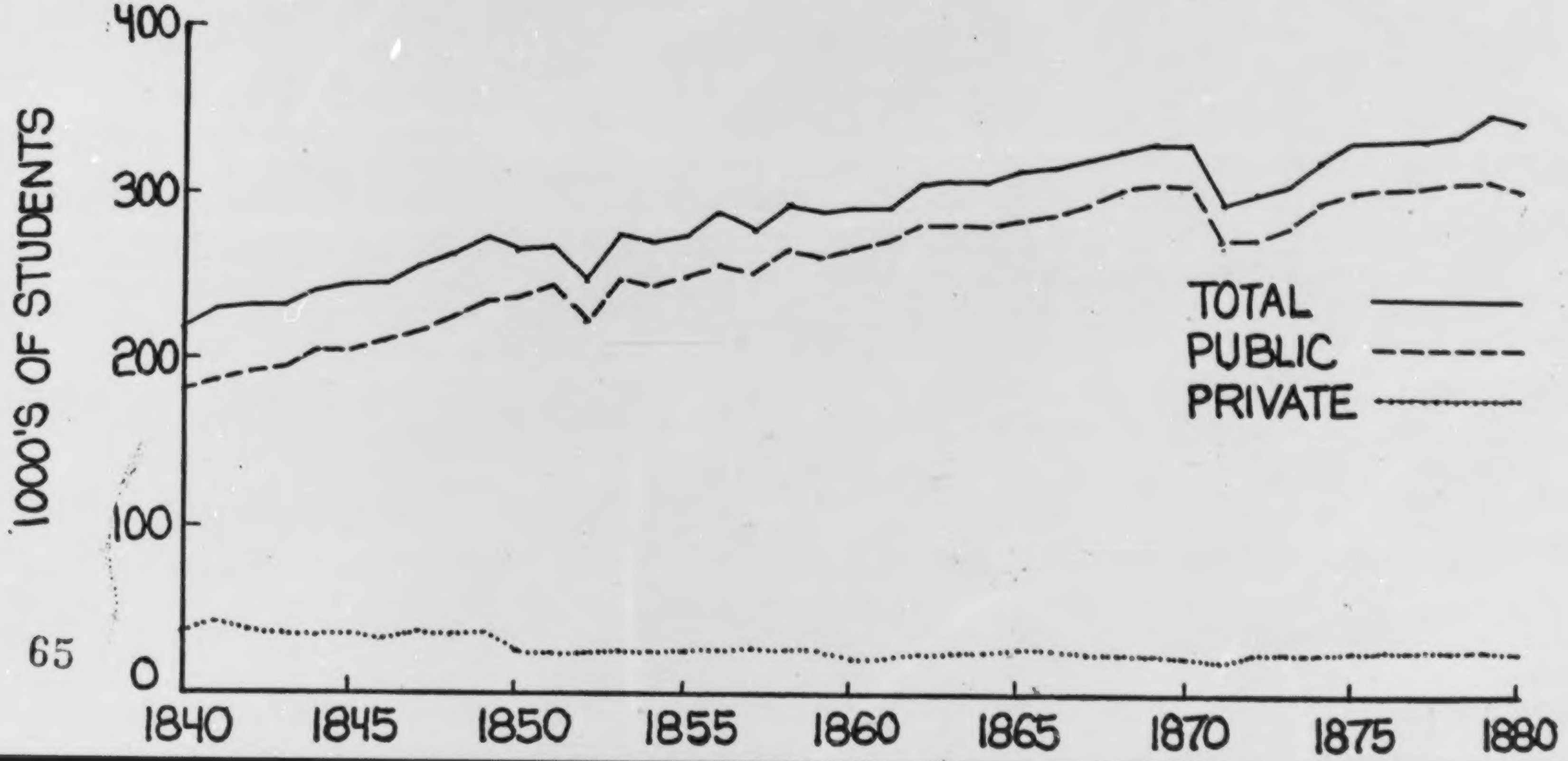
GRAPH NO. 1

PERCENTAGE OF PERSONS UNDER TWENTY YEARS OLD ENROLLED IN SCHOOL IN MASSACHUSETTS, 1840-1880



GRAPH NO. 2

TOTAL NUMBER OF STUDENTS ENROLLED IN SCHOOL IN MASSACHUSETTS, 1840-1880



part of the children of the City shall be included within the Public Schools."[15]

Expansion of the public schools, then, was not due to an increasing percentage of children enrolled. This was disquieting to some. Public anxieties are often based upon percentages (crime rate, employment rates, enrollment rates), not absolute numbers. People's perceptions of opportunity and social stability are quite rightly based on relative numbers, controlling for population. Thus, despite the much-vaunted expansion of public schooling during our period, the relative decline in annual enrollment rates made some impact on the public mind. We may briefly summarize its probable causes and possible effects as follows.

Why did enrollment levels fail to rise, in a state that was rapidly urbanizing and industrializing, a state that was modernizing its school system and was increasingly willing to legislate on school attendance? First, enrollment was already very high by 1840, our starting point. Although the rates are biased upward by students migrating through towns (see above), they are nonetheless stated in a way that looks misleadingly low, because they are stated as a percent of children in the whole age range from zero to nineteen, and obviously we would not expect--nor did Horace Mann desire--that a child would go to school from birth until the age of twenty. Enrollment rates are very age-specific and are very high in the middle school-age range of eight to thirteen years old. Thus, for example, while the Essex County total public and private enrollment rate for 1860 was 56 percent, school enrollment among the eight to thirteen year-old children (as reported by families in the U.S. Census) was over 90 percent, among both urban and rural towns, and across all ethnic and occupational groups.[16] To increase total enrollment, then, public policy would have had to be directed mainly at the younger or the older children.

This leads us to the second reason that enrollment did not increase. With regard to young children, public policy was aimed in the opposite direction. As we shall see in Chapter VI, from the 1840's onward state officials, medical spokesmen, and others discouraged the attendance of very young children at school, because of the growing belief that school was physically, intellectually, and psychologically harmful to children younger than five or six years old.[17]

Third, at the upper age range, child labor in mid-nineteenth-century industry increased the opportunity costs of schooling for working class teenagers, and in many cases teenagers may have preferred work to school quite apart from economic constraints. It is difficult to even guess how widely shared in our period were the sentiments of the fourteen year-old immigrant girl in early twentieth-century Chicago who declared, "Schools is de fiercest t'ing youse kin come up against. Factories ain't no cinch, but school is worst."[18] Even school reformers and town school committees sometimes complained that corporal punishment, dull recitations, and decrepit facilities blunted children's enthusiasm for school attendance.

The cultural diversity introduced by massive European immigration created a fourth factor. On religious grounds, and on general cultural grounds, some immigrants resisted public schooling and, lacking sufficient alternatives, did without. The value placed on schooling in their native countries also probably played a role in the decision of recent immigrants to enroll children in schools. This cultural dimension may have reinforced, but was not synonymous with, economic constraints and possible ideological class conflict that reduced the enrollment of working class teenagers. Although the relative importance of the specific motives is difficult to assess, it may be stated broadly that immigration and industrialization led in the short-run to a downtrend in annual school enrollments, and that in addition to the strictly economic reasons for individuals' decisions there was definitely a cultural and possibly an ideological dimension to nonenrollment.[19]

Finally, while various social reformers of the 1870's and later decades advocated stiffer compulsory school laws and more effective enforcement of those that existed, school workers were ambivalent, and they were sometimes blamed for being lukewarm in their support for universal attendance.[20] Local school administrators bent on perfecting their classificatory schemes and organizing their schools in the most efficient manner were not at all sure they wanted or could handle the resistant minority of nonattenders, who were looked upon as the least academically talented and the least cooperative of children.

The effects of the slight overall decline in annual enrollment are more difficult to discern. The literature on school reform after the Civil War suggests that public anxiety centered not on the young children at home, who were considered better off with their mothers (unless their mothers were working or were morally untrustworthy), nor on working teenagers, whom the state ignored after age fourteen, but rather on the complete truants--the idlers, the delinquents--even though they were a very small part of the whole. Thus, although our time series may provide some quantitative backbone to the urban jeremiads of the 1870's and 1880's, it is probably the irregular attenders and street urchins who prompted public pressure for compulsory attendance legislation, more than the toddlers at home and teenagers at work, who constituted the largest share of nonenrolled children.

One more specific effect of the effort to attract nonenrolled students into public schools was a process of differentiation of curriculum and of types of schools. As a way to resolve their ambivalence between an all-encompassing system and a well-ordered system, urban school administrators created special nongraded, segregated alternatives for irregular students, schools designed to keep them enrolled but at the same time to keep them from interrupting and confusing the efficient progress through the system by regular school attenders. Examples include evening schools and half-day schools for working teenagers, as well as intermediate schools to bridge the elementary and grammar levels for irregular attenders. The clients of these schools were often explicitly labelled as children from poor families or the children of immigrants. Thus, the differentiation process, a compromise solution to school enrollment problems, had a decided social as well as bureaucratic effect. School organization, in this as in many other ways, reflected and reinforced social stratification.

While total state-wide enrollment was slightly declining during the period from 1840 to 1880, the average number of school days attended per child in the state, a second key index of the level of education in a society, was increasing. We now turn to a discussion of two components of that statistic, average daily attendance and length of school session per year.

(c) Average daily attendance

As Graph 3 shows, average daily attendance was almost level from 1840 to 1880. The average daily attendance was stable despite the fact that total enrollment was declining; average daily attendance as a percent of total enrollment (rather than of all school-age children) rose from 62.4 percent at the beginning of the period to 76.4 percent at the end. Also, average daily attendance held its own despite substantial increases in the school year. We may therefore conclude that the campaign for regularity of attendance, bolstered by the rhetoric of efficiency and morality, and encouraged by prizes and honor rolls, was having some effect during the period of educational modernization in Massachusetts. Quantitatively, in conjunction with the increasing length of school year, the stable level of average daily attendance meant that the average Massachusetts child was getting more days of schooling each year.

(d) Length of school year

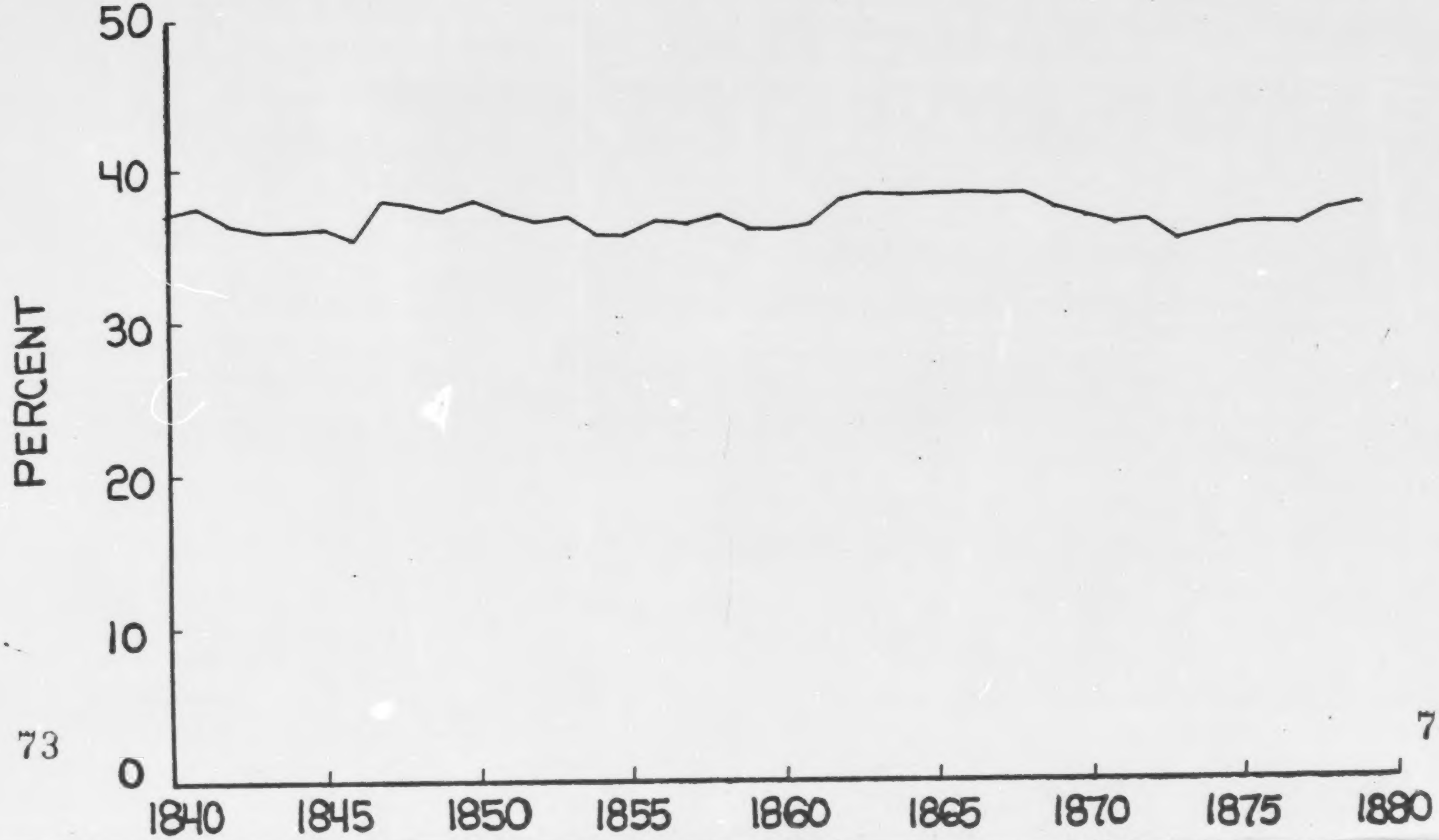
Our recalculated estimates of length of public school year, displayed in Graph 4, demonstrate substantial increases in this aspect of school attendance, from 150 days per year in 1840, to 192 days per year in 1880. These estimates do not include private school; the length of session is reported only for public schools after 1850 (see discussion, Appendix C-6). However, because private students were a small part of the whole throughout, and private school sessions were much longer than public sessions in the 1840's when the figures are known, the rise in length of public session is the crucial determinant of increasing average days of school per child during the period. The goal of longer sessions was argued continually as a reason for increased taxes, and it was fostered by the increasing urbanization of the state. Longer school sessions seem to have been more compatible with the lives of urban children than of rural children, probably due to the seasonal nature of agricultural work.[21]

(e) Annual days of schooling per child

Average days of school per child is the product of the average daily attendance and the length of school session. Graph 5 demonstrates the rise in this index from 60.6 days in 1840 to 71.6 days in 1879. The immediate reasons have been outlined above: a stable percentage of children in school daily, plus a substantially longer school year, both aspects of the successful school reform program of state officials and of town school committees. Thus, while the total enrollment index went down, the days per capita index rose. Massachusetts could in one important sense, then, be termed a more "educated" society in 1880 than in 1840. What effects this had is hard to say. Perhaps the increased per capita level of schooling helped lay the human capital groundwork for later stages of industrialization, which--unlike the initial industrialization of the antebellum period--increased skill requirements for workers and expanded the white-collar service

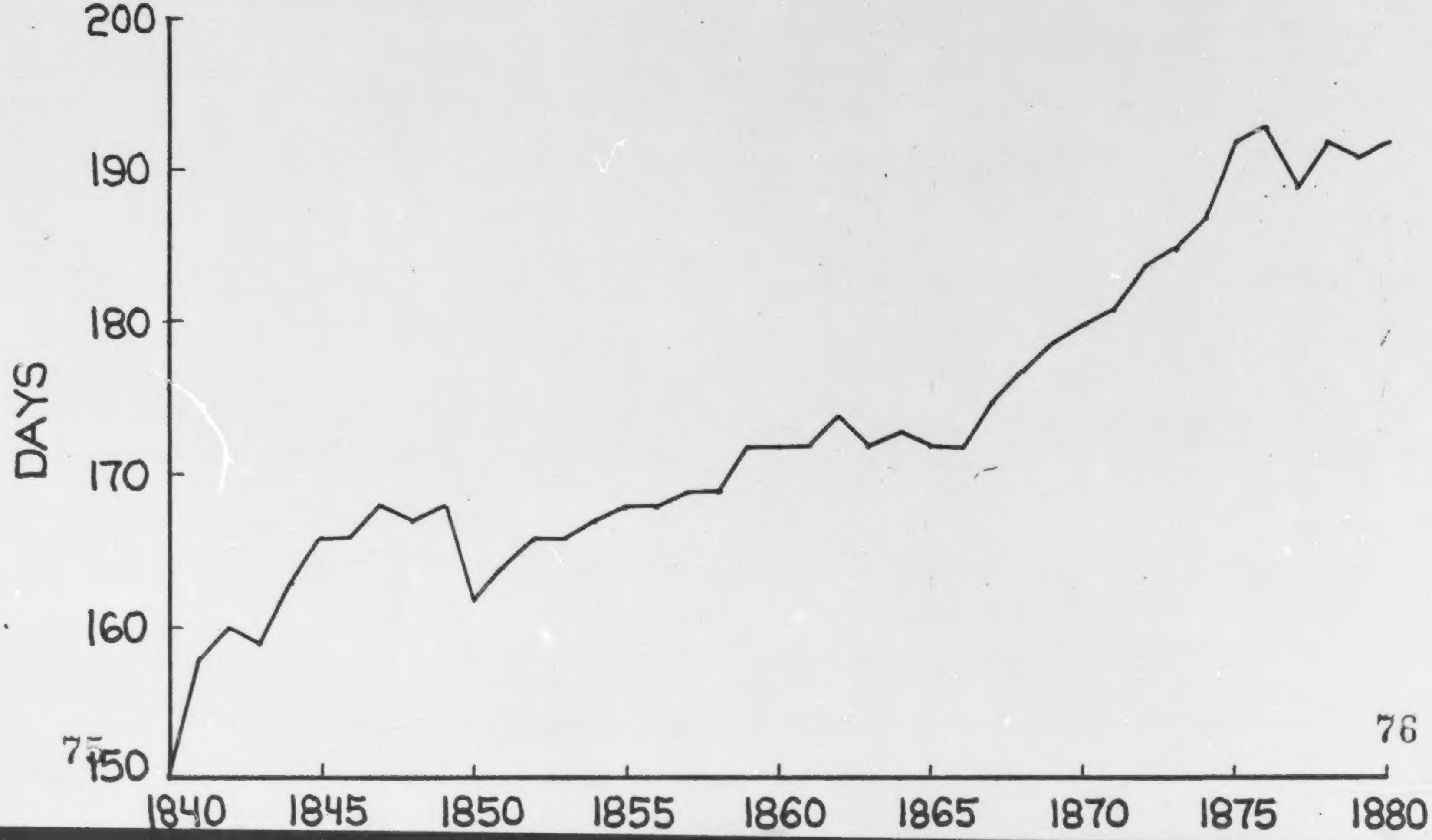
GRAPH NO. 3

AVERAGE DAILY ATTENDANCE, PUBLIC AND PRIVATE, AS A PERCENTAGE OF ALL CHILDREN AGES 0-19, 1840-1880



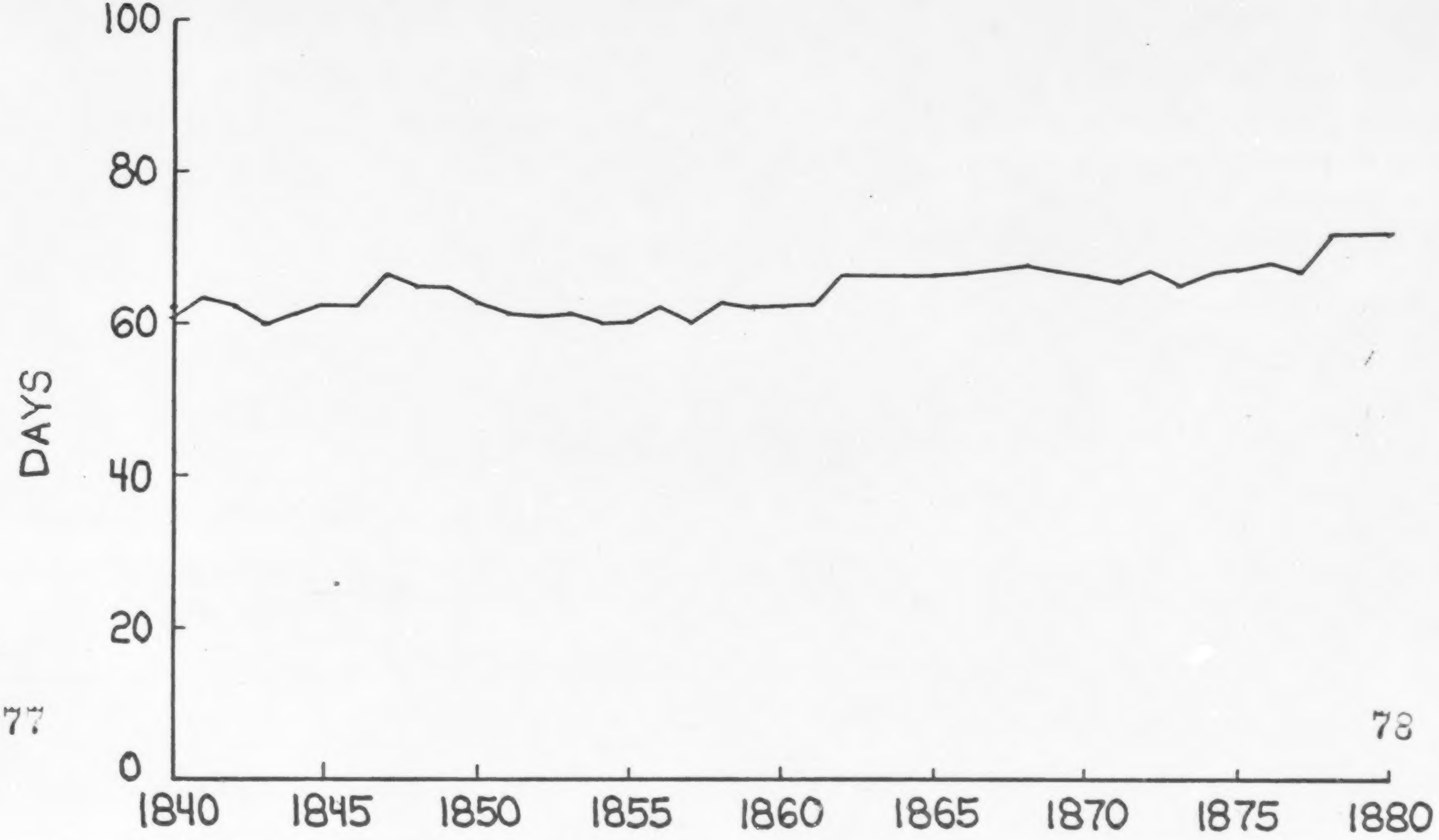
GRAPH NO. 4

LENGTH OF MASSACHUSETTS PUBLIC SCHOOL SESSIONS, 1840-1880



GRAPH NO. 5

AVERAGE NUMBER OF DAYS OF PUBLIC OR PRIVATE SCHOOL ATTENDED PER PERSON UNDER TWENTY IN MASSACHUSETTS, 1840-1880



sector of the occupational structure. More certainly, the increased time spent in school signified a custodial shift from family to school, an increasing shift of authority and responsibility from parent to teacher, a widespread and seemingly irreversible increase in the extent of state intervention in the rearing of the young.

FOOTNOTES to CHAPTER III

1. Massachusetts Board of Education, Tenth Annual Report of the Secretary of the Massachusetts Board of Education (Boston, 1846), p. 91. Hereinafter such reports will be cited as MBE, Nth Annual Report.

2. Lawrence school committee, Annual Report (Lawrence, 1854); Chicopee school committee, Annual Report (Chicopee, 1861).

3. For an earlier attempt to interpret the Massachusetts statistics, see Maris A. Vinovskis, "Trends in Massachusetts Education, 1826-1860," History of Education Quarterly 12 (Winter, 1972), 501-529, of which the present chapter is an extension and revision.

4. See Chapter IV.

5. On enrollment before 1840, see Chapter II.

6. Both Vinovskis, in "Trends in Massachusetts Education," and Alexander J. Field, in Educational Reform and Manufacturing Development in Mid-Nineteenth Century Massachusetts (unpub. Ph.D. dissert., University of California, Berkeley, 1974), treat the statistics as equivalent.

7. See, for example, Waltham school committee, School Return, 1849-50, MS, Massachusetts State Library, Annex, Vault. Hereinafter, this repository, located in the Massachusetts State House, Boston, will be abbreviated as MSL, Annex.

8. For another problem with the denominator--which estimate of school-age population to use--see Appendix C-1.

9. MS School Returns for Newbury, Dracut, and South Hadley, 1849-50, MSL, Annex.

10. MBE, Thirteenth Annual Report (Boston, 1850), p. 33.

11. See, for example, Carl F. Kaestle, The Evolution of an Urban School System: New York City, 1750-1850 (Cambridge, 1973), Table 19, p. 146, on Roman Catholic schooling.

12. For a critique of the historiography of English education based on previous writers' equation of officially approved schools with all schools, see E. G. West, Education and the Industrial Revolution (New York, 1975), Part One. For a discussion of the distinction in early Massachusetts and New York, see Chapter II above.

13. MBE, First Annual Report (Boston, 1839), pp. 48, 57.

14. For this process in the private schools of New York, see Kaestle, Evolution of an Urban School System, pp. 91-93. Research is needed on the social origins of New England academy students.

15. Mayor's Annual Report (Salem, 1843), p. 7.

16. See Chapter VII.

17. See Chapter VI. See also Vinovskis, "Trends in Massachusetts Education," Maris A. Vinvoskis and Dean May, "'A Ray of Milennial Light': Early Education and Social Reform in the Infant School Movement in Massachusetts, 1826-1840," forthcoming in Tamara K. Hareven, ed., Family and Kin in American Urban Communities 1800-1940 (New York, 1976), and the forthcoming Ph. D. dissertation by John Jenkins (University of Wisconsin) on antebellum reformers and young children.

18. Cited in David B. Tyack, The One Best System: A History of Urban Education in America (Cambridge, 1975), p. 177.

19. By "ideological" we mean conscious working-class resistance to values promoted in the public schools and perceived as middle class; there is little or no direct evidence for this sort of opposition.

20. See Forest Ensign, Compulsory School Attendance and Child Labor (Iowa City, 1921).

21. See Chapter IV.

CHAPTER IV

FROM ONE ROOM TO ONE SYSTEM: THE IMPORTANCE OF RURAL-URBAN DIFFERENCES IN NINETEENTH-CENTURY MASSACHUSETTS SCHOOLING

I. Introduction

American laymen have long perceived important differences between rural and urban schools. The little red schoolhouse of the countryside has a hallowed place in popular educational lore. Despite this rosy, nostalgic view, however, educators have generally taken a negative view of rural education, beginning as early as the mid-nineteenth century when the process of schooling became professionalized. Their criticism stemmed partly from their impulse to centralize and standardize education, which rural districts resisted, and partly from their admiration for the apparent efficiency and elegance of large, differentiated institutions, which rural schools lacked. In Horace Mann's view the crisis in Massachusetts education in the 1840's was largely attributable to the district system of local control; he and his successors fought long and hard to impose town level control throughout Massachusetts while they bemoaned the inadequate facilities and poorly trained teachers of small rural schools.

During the early years of the twentieth century, reformers lauded the urban school for its size, bureaucratic organization, and rich educational programs. Despite determined and persistent local defense of community control, Progressive reformers pulled rural schools into a more centralized network by consolidating rural districts and by increasing state regulation over education in the towns. This effort to "urbanize" rural schools was not new to the Progressive era, nor did it end in this period. The fact that the rural school "problem" persisted so long suggests that significant differences between urban and rural schools also persisted. Rural areas differed in population density, educational resources, and educational needs; there was no way to homogenize completely rural and urban education--not even with such devices as school buses, standardized teacher training, state aid, and television. Although twentieth-century reformers sought to bring rural education into a centralized framework, they recognized the particular needs of rural communities and endeavored to develop rural curricula appropriate for rural children. Nonetheless, rural-urban differences remained a recurring theme in educational monographs of government bureaus and schools of education, and despite the attention to revitalizing education for country life, the major thrust of this literature was to demonstrate the deficiencies of rural schools and the disadvantages of rural youth.

The ebullience of this worship of urbanism was perhaps best expressed by Commissioner of Education William Torrey Harris in 1900, when he wrote that the appointment of Horace Mann as Secretary of the Massachusetts Board of Education had been "the beginning of the great urban epoch in America," explaining that "the city school is a stronger moral force than the rural school because of its superior training in the social habits named--regularity, practicality, orderly concerted action and self-restraint."[1]

In the 1960's, however, the focus and the normative tone changed. The crisis was in urban education, and problems were bigness, impersonal bureaucracy, racism, ineffective teaching, and heartless socialization for failure. The tables had turned. Whereas the enthusiastic Progressives had seen the urban school as a remedy for urban problems, latter day reformers saw it as a symptom. A revived nostalgia for the small, nongraded school found its practical expression in various urban free school experiments, and community control advocates tried to undo the tightly centralized urban systems that Progressives had fostered. The nation had become more and more urbanized, but urbanity had proved no panacea. Gradually the upper middle class suburban school had become the ideal and the center of innovation. A crisis in urban education replaced the old rural school problem.

The categories rural and urban, then, have been prominent in educational thought, both at the popular level and as analytical categories among students of education. They have remained loosely defined, however; the concepts of urbanity and a rural-urban continuum have yet to receive from students of American educational history the kind of scrutiny given them by sociologists. What size defines an urban community? Is it valid to speak of a rural-urban dichotomy, or a continuum, or a set of demographic types, like rural-village-city, or rural-suburban-urban? What qualitative as well as quantitative differences are there in schooling in demographically different communities? Most important, what is it about urban places that most influences their educational development? Is it size *per se*, or density, or is it because urban areas just happen also to be the site of greater cultural heterogeneity or class differentiation?

The chapter that follows treats this complex subject in three ways: first we review briefly some recent studies by educational historians which focus implicitly or explicitly on the process of urbanization; second we discuss some relevant definitions and conceptual caveats made by sociologists in their long-standing debate over the merits of the rural-urban dichotomy; and finally, we describe and speculate on the causes of some actual rural-urban differences in schooling in nineteenth-century Massachusetts.

II. Recent Studies Dealing with Urbanization and American Education

The critical view of urban education of the late 1960's found its counterpart in educational history. This is not to say, necessarily, that contemporary policy studies dictated the focus or the conclusions of historians, for there were also reasons internal to educational historiography for the new urban emphasis. Until 1960, a selfcongratulatory version of American school history reigned virtually unchallenged in schools of education and in the public mind. In this idealist, progressive view, the initial motives for public schooling in America were to bring democracy, opportunity, and enlightenment to all members of the society. The history of American schooling was the story of valiant schoolmen gradually implementing those goals. Schools were the engines of American democracy, the bulwark of free institutions, and in Horace Mann's famous phrase, "the balance wheel of the social machinery."[2] In 1960 Bernard Bailyn criticized this interpretation, calling for work by historians that would eschew an a priori commitment to the justification of public schooling. He also advocated studies that would view education not simply as schooling but as "the entire process by which a culture transmits itself across the generations."[3] Bailyn's influential essay called forth, or at least anticipated, two strands of revisionist writing in the history of education. Some scholars have pursued and modified Bailyn's broad definition of education, most notably Lawrence Cremin, in his massive American Education: The Colonial Experience.[4] For those content to leave schools as their central focus, however, the most gripping interpretive issue has become the intended and actual effects of public schooling in the past. Looking to large cities, where social stress was greatest and where public school bureaucracies first arose, several historians discovered anxiety about social stability at the heart of educational efforts, both in the antebellum period and since the Civil War. They also underscored the enthusiastically technocratic mentality of schoolmen and pointed out the close relationship between bureaucracy and conformism in the schools. These histories have been loosely labelled "revisionist," and although they differ in their conclusions, they have indeed helped to revise the older laudatory tradition in American educational history.[5]

One of the first scholars to direct attention to the development of urban education was Michael Katz. He must be credited with first emphasizing "social control" and "reform by imposition" in urban school reform from the early nineteenth century to the present. In an analysis that depended largely upon developments in Beverly, Lawrence, and other Massachusetts towns, Katz concluded, "we must face the painful fact that this country has never, on any large scale, known vital urban schools, ones which embrace and are embraced by the mass of the community, which formulate their goals in terms of the joy of the individual instead of the fear of social dynamite or the imperatives of economic growth."[6]

Subsequently, two scholars produced detailed accounts of educational developments in eastern seaboard cities, Stanley K. Schultz on Boston, and Carl F. Kaestle, one of the present authors, on New York City. They found the roots of the American public school system in the antebellum city and its problems. Despite differences in scope and conclusions, Schultz and Kaestle agreed that the development of the urban school system was a response to social problems perceived by urban elites and that the central function of nineteenth-century urban education was the acculturation of immigrants and the inculcation of values deemed appropriate for urban-industrial society. According to Schultz, "the public school movement in the United States matured in response to what contemporaries viewed as an urban crisis....Between 1800 and 1860 those seeking a new urban discipline created as one of their most useful tools a system of public education. City leaders championed education to secure social order in a disorderly age."[7] The implicit causal argument, then, is that urbanization led to the peculiar bureaucratic structure and normative content of schools in these cities. By urbanization, however, these authors meant the economic and cultural concommitants of American urbanization as well as the demographic growth and concentration of population. Their effort was not to weigh among them as causal factors, but rather to show how the myriad problems of cities combined to produce highly regimented urban school systems. As Kaestle concluded:

> The roots of educational systematization...are in the economic system, in ethnic problems, and in the very demography to which urban school systems must respond....Social disruption, caused by inequitable distribution of income and housing, and by ethnic and racial diversity, has intensified the demographic pressure in cities. These forces have shaped the urban school system from its earliest stages to the present.[8]

In the most recent attempt to synthesize urban educational history, David Tyack's The One Best System, the causal argument is also diffuse. Whereas Schultz and Kaestle each studied the development of education within a particular city, Tyack ranges over several cities and ultimately depicts the development of education in the whole urbanized society. By urbanization, Tyack means "the highly complex changes in ways of thinking and behaving that accompanied revolutions in technology, increasing concentrations of people in cities, and restructuring of economic and political institutions into large bureaucracies."[9] Tyack's study provides a superb analysis of the administrative mentality of school people from the late nineteenth-century to the present, highlighting their quest for technique--thus the title, The One Best System. Extending one of Schultz's themes into the twentieth century, Tyack concludes that "increasingly the school developed a curriculum, overt and implicit, that served as a bridge between the family and the organizational world beyond--that is, helped to create an urban discipline."[10]

These studies and others have contained important new insights about education in American cities, but they have left hanging some questions about the relative salience of different processes of change which have been gathered under the rubric of urbanization. We designed our research to address these quesions. We have included all the towns of Massachusetts in our sample, permitting comparisons of educational levels and practices in towns of differing size, and we have quantified various economic and cultural characteristics of the towns and then attempted to assess their independent relationship to educational variables. We have defined urban status narrowly, to be measured only by size and density of population. We wish to discover whether these two demographic variables were characteristically associated with indices of educational activity, or whether other economic and social characteristics, such as occupational structure, ethnic composition, or wealth were better predictors of school attendance, teacher characteristics, and educational expenditure patterns. If the latter is true, we should be cautious in using the concept of urbanization as a "cause" and should rather talk of urban or rural "settings." The other variables, while they may have characteristic associations with our urban variables, may be historically or geographically specific, and they are therefore not necessary concomitants of the process of population growth and concentration. Caution on this problem of definition is reinforced by the sociological literature on rural-urban differences, which we now briefly review.

III. Rural Places, Urban Places, and Sociologists

A. Dichotomies and Continua

The rural-urban dichotomy, suggesting polar opposites or ideal types, is related to various other time-honored polarities in sociology intended to describe social evolution: traditional vs. rational (Weber), gemeinschaft vs. gesellschaft (Tönnies), folk vs. urban (Redfield), traditional vs. modern (Lerner, for example), and others.[12] The Tönnies formulation, perhaps the most cosmic watershed concept, has had much influence on the writing of American history, and its seemingly inexhaustable appeal continues. The notion of a transition from a stable, small, personal community to a larger, transient, impersonal society seems to summarize aptly an endless number of social developments in various time periods. The rural-urban dichotomy is also alive and well and has its practical embodiment in the longstanding U.S. census categorization of places over 2500 in population as "urban," and those under 2500 as "rural". That it has been thus perpetuated, however, does not necessarily make it a useful distinction.

The idea of crude dichotomies has come in for much criticism from sociologists. Even Wirth, himself responsible for one of the most influential statements of the urban ideal-type, emphasized that such constructs were only hypotheses without much empirical verification. Others, such as Sorokin, stressed the idea of a gradual transition from rural to urban rather than a dichotomy of types. In 1957 Duncan stated that "no competent sociologist, for at least a generation, has maintained that the distinction between urban and rural is a sharp one," and he recommended inductive classification of communities along more than one dimension. Recent critics have grown more strident. Hauser labelled such global dichotomies as the rural-urban continuum "catchy neologisms which often get confused with knowledge" and said they obscured "complex systems of variables which have yet to be unscrambled." R. E. Pahl's review of the problem in 1966 began with the declaration, "in a sociological context the terms rural and urban are more remarkable for their ability to confuse than for their power to illumine." Nor can the idea of continuum rescue the dichotomy, Pahl argued, for there are several different and nonoverlapping continua, as well as some important discontinuities, like the interaction between state and local systems, whether urban or rural.[13] Hauser, reinforcing Pahl's criticism of the continuum concept, points out that 1950 census data "not only indicate that the urban-rural dichotomy might better have been stated as a continuum, but also that the continuum itself does not hold when reality is examined." Some characteristics of populations ranked by size revealed nonlinear relationships.[14] In sum, not only should we approach the question of rural-urban differences with a continuum rather than a simple dichotomous framework, but we should recognize that there are several continua, that they do not always overlap, and that it remains in every case to establish, rather than assume, a linear trend along any rural-urban continuum.

B. Ecology and Culture

Recognizing that there are several different variables that might serve as a basis for a rural-urban continuum does not solve the problem of defining urbanization. Older ideal types dealt not only with size and density of a community but with many presumed consequences of population concentration, ranging from family structure to an individual's sense of well-being. The breadth of the construct is best summed up by Wirth's phrase "urbanism as a way of life." Because many of these variables seem to differ considerably in different historical and geographical settings, urban sociologists a generation beyond the Chicago School of Wirth have recommended reducing the definition of urbanization to a few clearly measurable demographic variables, the practice we have adopted. Cultural and psychological variables, the sociologists have decided, are especially bound to particular times and places and should therefore be excluded from definitions of urbanization. Even if we limit the definition to Wirth's three central defining elements--size, density, and heterogeneity--one can raise questions about the latter, based on historically specific ethnic patterns not consistent with size.[15] Ethnic heterogeneity plays a particularly salient role in American urban development because of the unprecedented volume and diversity of American nineteenth-century immigration. But to see immigration as part and parcel of urbanization would be to ignore the history of rural immigrants and muddle the definition of urbanism.

Bealer, Willits, and Kuvlevsky specified three dimensions that have evolved in the literature on rurality: ecological (size or density), occupational (workers engaged in agriculture), and socio-cultural (variations of traditional mentality). Although the authors note that the ecological variables per se may not be of much sociological import, they have qualms about defining rurality by agriculture because it may overlook substantial rural nonfarm population, and they eschew altogether the inclusion of culture as part of an index of rurality which might then be construed as an independent variable explaining something else since culture should mean "a systemic whole with mutual dependence among the parts....To designate some aspects of the whole as 'independent variables' and hence presumably of causal significance, would seem to violate the very idea of a patterned whole."[16] Richard Dewey also argues against cultural elements in the definition of urbanism: "There is no such thing as urban culture or rural culture but only various culture contents somewhere on the rural-urban continuum."[17] The best advice on this problem has indeed been around since 1942. Hope Tisdale Eldridge, defining urbanization simply as an increase in the number and size of cities in an area, advised: "The criterion must be in terms of population. Then we can study traits, relationships and characteristics to our heart's content."[18] The second recommendation to be drawn from the literature on the rural-urban continuum, therefore, is clear: don't include cultural variables in the definition of urbanization, and don't assume, prior to investigation, that cultural changes are necessary concomitants of demographic change.

Most sociologists now seem to agree on the desirability of a multi-dimensional notion of rural-urban continuum rather than a one-track transition, and on the undesirability of cultural content in definitions of urbanity. Having restricted the basic definition of urbanization to size and density of population, however, scholars show less consensus as to whether there are any observable concomitants of urbanization which are inevitable, for example, in the area of social and economic organization. This issue is, of course, crucial to understanding the relationship of urbanization to the systematization of schooling. Dewey argues that despite "the mistaken assignment to urbanism of welter of cultural items," there are five universal concomitants of increases in size and density: (1) anonymity, (2) division of labor, (3) heterogeneity, (4) formally prescribed relationships, and (5) impersonal status symbols. One could quibble about whether these are distinct (4 and 5 seem to be aspects of 1) or about how strongly correlated size and heterogeneity are, but no matter--Dewey is modest about the sociological importance of these traits, labelling them "real but relatively unimportant."[19] Southall has taken a similarly limited view, claiming that increasing role differentiation is "the only certain sociological concomitant of urbanization."[20]

Other scholars, however, focussing on this very process of differentiation, assert a wide variety of consequences which have had immense impact on the structure of society. Although Hauser points out that many of Wirth's hypotheses about urban behavior are unproven and questions their applicability to less-developed countries, he subscribes to the view, essentially following Durkheim, that increased population size and density lead inevitably to increased complexity and differentiation in social structure and material production, and that this leads inevitably to more formally regulated social interaction:

> As an inevitable consequence of the increased division of labor and specialization, an ever more interdependent society has necessarily evolved new forms of coordination and integration, including increasing government intervention.

Bureaucracy, Hauser asserts, is also the inevitable urban form of "rational-formal-legal" organization. Reflecting an ideal-typical view of the subject, he continues, "bureaucracy is necessarily impersonal and requires the subordination of the individual to the organization."[21] Although these urban developments in organization and human relations may not be "cultural" by some definitions, they certainly have an impact on culture. Thus it seems that some of what was excluded under the rubric of culture has come back as social structure. In a more recent essay Leo Schnore also approvingly discusses Durkheim's notion that an increase in human interaction leads to increased differentiation and division of labor because of competition. He concludes that the "connections between demographic and social change are numerous and diverse" and constitute the unfinished business of urban and rural sociology.[22] Schnore apparently would agree with Eldridge, that we may investigate the social concomitants of urbanization "to our heart's content." Excluding nondemographic variables from the definition of urbanization does not end the debate on its consequences. As later chapters will reveal, we find some merit in the notion of bureaucratic and possibly even social psychological concomitants of population growth per se; evidence for this notion in the sphere educational development consists of increasingly bureaucratized, standardized systems, such as those depicted by Tyack in The One Best System and in John Jenkins' case study of Lynn, Chapter IXof this study.

C. Anomalies and Exceptions

Lest we fall back into the "urbanism as a way of life" quagmire, however, we should briefly reiterate a third point made in the literature on the rural-urban continuum, that there are many anomalies and exceptions to the generalizations that accompanied the older ideal-typical polarity. Family historians have found that urbanization has not spelled a transition from extended to nuclear families; students of real bureaucracies have found that they are not consistently efficient, impersonal, or rule-governed; and sociologists have provided numerous examples of village mentality and behavior in metropolises. Lenski has written about surviving communalism in Detroit, Hoselitz about traditional behavior in dense Bombay, and Gans about Boston's "urban villagers."[23] An empirical study by Fischer questions Wirth's equation of urbanism with alienation and powerlessness, and another by Reiss challenges the notion of impersonality of city life in terms of time spent with relatives and intimate friends.[24] Some stereotypical differences derived from Wirth and Redfield traditions, it seems, are not as universal as urbanists had supposed. All of these exceptions and revisions underscore the advice summarized in the preceding section: do not define urbanization with cultural and psychological constructs.

D. Urbanization and Technological Stages

A fourth generalization that may be drawn from the literature on rural-urban differences is that their nature depends upon historical stages of technological development. As Oscar Lewis has argued, urbanization is not a single, universal process. It "assumes different forms and meanings, depending upon the prevailing historic, economic, social and cultural conditions."[25] Sjoberg designated three stages, the preindustrial, transitional, and industrial, and he has described the different character of the rural-urban relationship in each. In a transitional society, for example, the ties between urban and rural places are increased due to increased migration and the emerging structure of state administration in which both urban and rural communities are subsystems. The interchange between urban and rural places is greater, and therefore the similarities are greater than in preindustrial societies where urban dominance is maintained by market towns and government officials, but less than in fully industrialized societies where mass communication, national markets, and widely accessible transportation greatly reduce rural-urban differences.[26]

The consolidation of school districts and the increasing imposition of state regulation in education are also forces in dissolving rural-urban differences.[27]

Thus, studies of contemporary developing nations which discover strong rural-urban differences in "modern" attitudes are not very pertinent to the history of the United States.[28] In developing nations urban residence may much more clearly offer unique access to media, education, politics, and other modernizing influences than in early America. Eighteenth- and early nineteenth-century rural society in America was not a peasant or folk society. High levels of mobility, land ownership, and education, as well as emerging markets and developing technology, mark it as transitional; and even among "transitional" societies there may be important differences in the impact of urbanization, depending upon patterns of city size, educational access, colonial status, and other historically specific factors. Despite the assertions of urbanists like Hauser and Schnore about the universal concomitants of urbanization, the qualifications of commentators like Sjoberg and Lewis suggest again that we define urbanization demographically and then investigate its impact in specific historical and geographic settings.

IV. Urbanization Defined

We have followed the sociologists' injunction to use a bare-bones definition of urbanization in order to see what insights it may yield into educational patterns in nineteenth-century Massachusetts.

The most straightforward and precise definition of the urban status of a given community is its population size and density.[29] Data on population size are readily and systematically available beginning in 1790 for the United States; for this reason it is the most frequently used index. Data on population density are very difficult to assemble, lacking systematic figures on the area of towns, but because of the theoretical importance of density, we have used an approximation of density in our multivariate analysis.

In the long run density is quite highly correlated with population size, despite some persistent anomalies like the density of present-day Los Angeles compared to New York City. Duncan argues for classification by size on the grounds that this will yield ordering by density as well.[30] This may not be true in the short-run, however; moreover, town size and population density refer to quite different phenomena. Size depends not only on demographic growth but also on the formal organization of an agglomeration of people--the governmental boundaries. Size can thus change quite dramatically through consolidation or partition without changing density or other characteristics. Conversely, a city can grow in real terms without changing its outmoded boundaries. The problems of urban sprawl and suburbs have led recent demographers to replace official population definitions with such concepts as the Standard Metropolitan Area.

Considering the arbitrariness of town size, one might predict that density would be a more central or meaningful index of changes in human interaction. However, there is one important effect attributable to size per se. To the extent that government services such as police, schools, and welfare are provided by the town, the size of the population will determine the scale of the service organizations, which in turn affects their bureaucratic structure and modes of operation. Stated from a client's point of view, population size alters the character of the civil reference group to which each inhabitant relates. Getting schooling from the town of Boxford is not the same as getting schooling from the city of Boston; law enforcement is not the same in units of 800 people as it is in units of 80,000. Town size alone, then, may affect the level of efficiency, variety, anonymity, and formality of organizational life.

Density complements or reinforces such tendencies but has additional effects. Density is a demographic, not an arbitrary, variable and thus should affect informal relationships as well as formal organizations. At lower levels, density may affect the frequency and diversity of human contact; at higher levels density may adversely affect the material quality of life by creating crowded living conditions or congested transportation facilities. Of course, high density may be a proxy in specific situations for other variables we are unable to measure, such as high migration, which have important social effects and are also part of the process of American urbanization.

In sum, both population size and density are conceptually necessary for the universal concomitants of urbanization proposed by Durkheim and reiterated by Hauser and by Schnore because those consequences flow from role differentiation, which is a function both of scale and density.

V. Urbanization in Nineteenth-Century Massachusetts

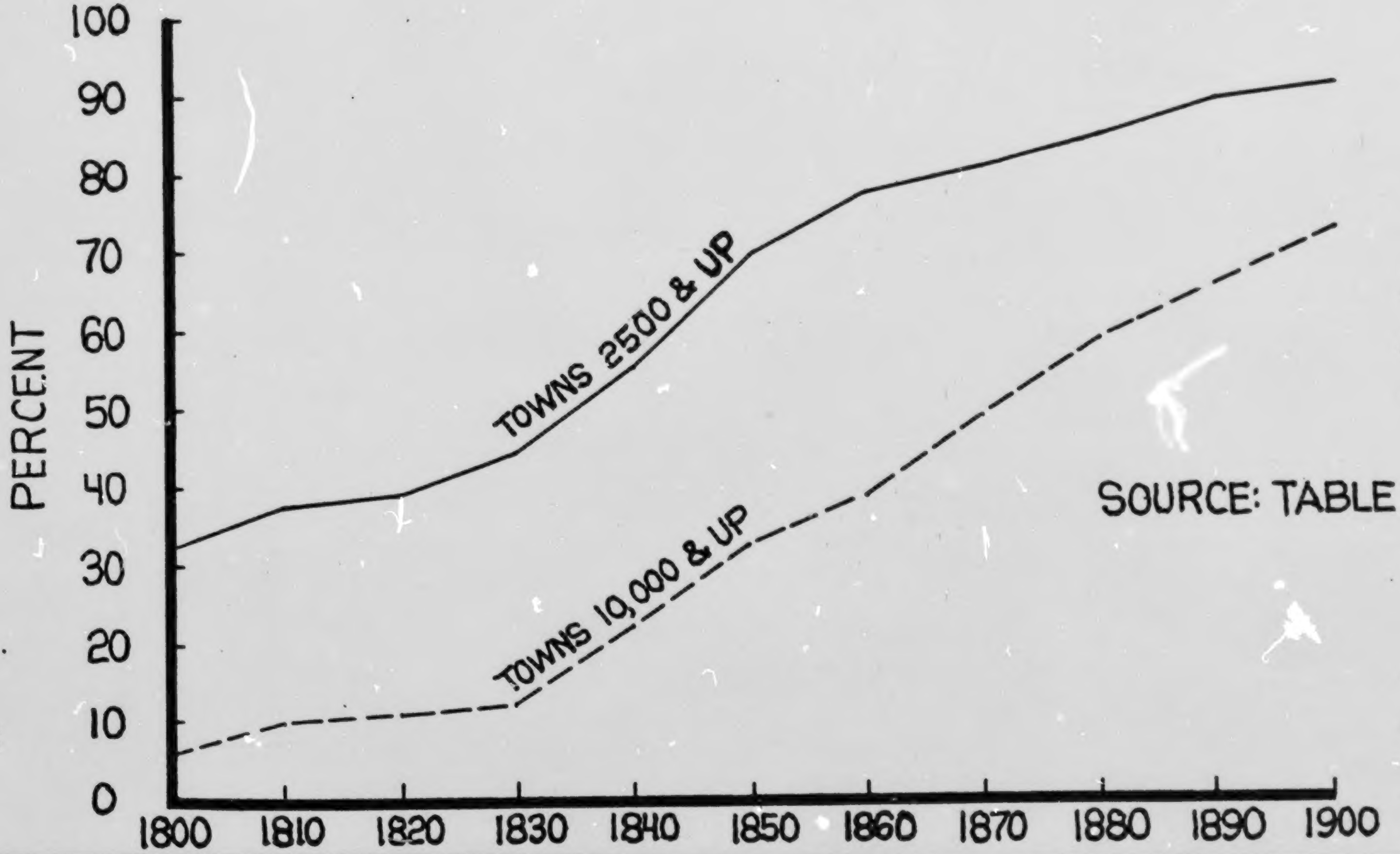
One reason scholars have associated nineteenth-century school reform with urbanization is that they coincided. The major system-building decade for New England educators occurred in the 1840's when the rate of urbanization peaked in Massachusetts.[31] But correlations are not causes, and the story of both urbanization and school reform are complicated. To put our Massachusetts data in context, we present some of the basic facts about urbanization from 1800 to 1900.

Urban growth was not, of course, new in the nineteenth century. Taylor has emphasized that urbanization was proceeding at a rapid rate prior to the American Revolution, with the population in towns over 8000 inhabitants rising 33 percent from 1750 to 1760 and 50 percent from 1760 to 1770. This rate of growth was sharply curtailed by the war, and the urban population made a slow recovery from 1780 until 1810, a period of urban dominance by commercial seaports. The decade from 1810 to 1820, which Taylor calls "the great turnabout" in American economic development, is the only decade during which the percentage of the population in towns over 2500 persons declined. Thereafter the urban population in the United States increased steadily from 7.2 percent of the total population in 1820 to 39.7 percent in 1900.[32]

Massachusetts was more urbanized than the rest of the nation throughout the nineteenth century.[33] The proportion of urban dwellers in Massachusetts rose from 32.0 percent in 1800 to 91.5 percent in 1900 (see Graph Number 1). In terms of the rate of increase in the

GRAPH NO. 1

PERCENTAGE OF THE MASSACHUSETTS POPULATION LIVING IN URBAN AREAS
1800-1900



SOURCE: TABLE NO. IV

percentage of the population urbanized in Massachusetts, the two decades between 1830 and 1850 are particularly significant. The surge of urban growth in the 1830's and 1840's coincides with a shift from commercial seaport dominance to the rise of numerous manufacturing cities in Massachusetts. In contrast to the rank-order stability of great cities, a commonplace among historical geographers, Massachusetts saw a substantial rank-order shift in medium-sized cities, below the level of Boston, from commercial seaports like Salem, Nantucket, and Gloucester, to inland manufacturing centers like Lowell, Lawrence, and Worcester. As we would expect, the proportion of the population engaged in manufacturing increased with urbanization, making its biggest gains in the 1840's. After mid-century the increases of manufacturing workers slackened, not because industrialization had slowed but because the developing tertiary sector of the maturing economy absorbed some of the shift from agriculture.[34] However, even in the first half of the century there are discrepancies in the timing and magnitude of increases in urban population and manufacturing workers. Lampard properly cautions us against any "easy identification of the urbanization and industrialization processes."[35] There is a considerable degree of independence between urbanization and industrialization processes in Massachusetts during the nineteenth century. Multivariate analysis will help to untangle these processes and assess their relative relationship to educational development.

VI. The Urban Crisis: Real or Imagined?

The gross trends in nineteenth-century urbanization are not in doubt. Their meaning for social history is less clear. The rough coincidence of industrial development and heavy immigration with the period of increased urbanization in the 1840's and 1850's, with all the attendant human problems of these developments, has contributed to the notion of an "urban crisis" in the nineteenth century, a notion resoundingly affirmed by reformers of the period. The urban crisis often accompanies the geminschaft-gesellschaft transformation; historians discover the crisis in different decades, depending on the city and the period they have chosen.[36] We do not intend here to affirm or deny the reality of such crises, but only to argue that an increasing rate of urbanization is not inevitably accompanied by the deterioration of living conditions on all fronts. This once again suggests the need for greater precision in the social history of cities. The first distinction which must be made is that between the perceptions of urban crisis, which are ubiquitous in the minds of urban reformers, and the objective indices of change. Three further distinctions should be made. First, American cities, for all their similarities, may have been substantially different in quality of life. New York City, much studied by urban historians, surely experienced the greatest growth and the greatest problems of all American cities; if there was an urban crisis in the nineteenth century, it was here. But we should not assume that Boston was the same, or as bad as, New York; and there doubtless were differences in degree between the problems of the medium-sized cities like Springfield and the great metropolises. Impressionistic evidence suggests differences among Massachusetts mill towns; living conditions and attendent urban ills were allegedly worse in Fall River than in Lawrence, for example. Urban history has been characterized by studies of single sites; in the future we need more comparative studies to determine which urban developments were idiosyncratic and which were systematic.

The second distinction is that a decline in one aspect of living conditions does not necessarily imply a decline in other aspects. For example, despite increasing population density and the invention of the tenement, urban life expectancy in Massachusetts was not declining--perhaps because average per capita income was rising and public health efforts were increasing in the cities.[37]

The third distinction is between averages, extremes, and distributions. Averages can be misleading and can be used to mask serious injustices in the history of common people. On the other hand, there has been a tendency in urban history to highlight the most abject and exploited city dwellers, reflecting the same focus on the part of reformers in the past. For New York City's historians, for example, the infamous Five Points area has become a symbol of urban squalor, as it was in Victorian America. Yet it was also an extreme rather than a typical slum. Similarly, the Shattuck Report of 1850 on sanitary conditions in Boston is widely cited; but before we make it an emblem of Boston filth at mid-century, we should recall that it too focused on the worst areas of the city and that it followed on the heels of a terrible cholera epidemic.[38] In fleeing from elite history we must avoid the tendency to concentrate only on the poor and the downtrodden so vividly portrayed by contemporaries; nineteenth-century cities were also populated by various middle groups who were neither the instigators nor the objects of reform. The most satisfactory approach, which we cannot detail here, is to investigate the changing distribution of wealth, goods, housing, status, and other amenities by determining the average level for various sub-groups within a city. In this way we can discover the pockets of middling affluence and the pockets of persistant inequality, as well as the extremes of poverty and luxury.

Thinking in terms of averages as well as extremes, then, what might the new history of living conditions look like? Do the fragments of known trends add up to an urban crisis? Some conditions, obviously, were changing dramatically and created strain. Population size per se necessitated some organizational changes, as in the systemization of New York's schools or the professionalization of Boston's police.[39] Heavily increased immigration rates were changing the composition of urban populations and caused cultural conflict.[40] One of the most dramatic examples was Holyoke which grew from farmland to milltown virtually overnight, and was inundated by Irish laborers.[41] Elite Yankees perceived the assimilation problem as a crisis and mustered schools, tracts, and police for the task. But again, we must not rely solely upon elite Yankees' perceptions for our history. Recently scholars have challenged the earlier cultural shock theme in immigrant history, emphasizing instead the integrity and viability of the immigrant family, neighborhood, and cultural organizations. Ward, arguing against the pathological view of immigrant residential districts, says they "were often erroneously identified with high rates of infant mortality, crime, prostitution, drunkenness, and various other symptoms of social ills."[42]

The reformers' litany about the disorder of working class lives must be tested against fragmentary and imperfect statistical evidence about living conditions, and we must be sensitive both to extremes, averages, and patterns of distribution. Income provides a complex example. Available evidence suggests that in the period 1800 to 1860 poverty was increasing while per capita income was also increasing for many groups because of the growing inequality of wealth distribution as well as the rise in productivity.[43] Similarly, a decline in the rate of infant mortality did not help the unemployed immigrant who could not afford food for his own dying child. Nonetheless, among most groups life expectancy was not decreasing in nineteenth-century Massachusetts, and such trends are also part of the history of ordinary people.

Deviance, so much talked about at the time, is even more resistant to quantification than health and wealth. Was crime increasing with urbanization? Perhaps, but Lane, arguing that Boston police were organized largely for mob control, asserts that "those mad or desperate offenses which accounted for most serious crime were not proportionately on the increase during the nineteenth century," and that "it is impossible to assess accurately the changing incidence of the disorderly behavior of which drunkenness was the center and symbol." In Waltham much of the increase in arrests between 1872 and 1890 was due to native Protestant crusades to stop the Irish from drinking.[44] It is not clear whether drunkenness or intolerance of drinking was increasing.

Clearly, nineteenth-century urbanization, with accompanying immigration and industrialization, put strains on human relations and demanded new forms of organization. To take reformers at face value and posit a constant urban crisis as a causal factor in institutional development, however, may be to avoid specifying rates of change in specific features of urban life. Once we get a better grounding in comparative history of urban living conditions, we can go back to the perceptions of reformers to see whether they were reacting to actual deterioration attendent upon urbanization or whether their expectations were changing. Were problems getting objectively worse, or had more people in mid-nineteenth-century America come to believe that they could intervene to solve social tensions through institutions?[45] Obviously, both were happening to some degree, but urban crisis is not a sufficiently elegant concept to sort out the problem.

VII. The Rural Crisis

One problem with an emphasis on an antebellum urban crisis in explaining the systematization of schooling, then, is the failure to distinguish more carefully between the perceptions of reformers and the quantitative indices of various conditions and behavior. Another problem is that the focus on urban problems overlooks a simultaneous rural crisis that also had an important impact on schooling development.

The improved markets afforded by urban growth and the intense western competition allowed by improved transportation spurred technological improvements and created widespread anxiety among New England farmers during the firty years preceding the Civil War.[46] Horses replaced oxen as iron ploughs replaced wooden ploughs. Self-sufficient production and household industries declined as farmers felt the influence of national markets and factory production. "This transition from mother-and daughter-power to water-and steam-power," wrote Horace Bushnell in 1851, will "carry with it a complete revolution of domestic life and social manners."[47]

But the revolution--in agriculture and in rural manners--was not entirely welcome. Progress was often accompanied by discouragement, decline, and defection to the cities. This rural crisis affected education in at least two ways. Competition and declining relative productivity led to efforts by agricultural journals and societies to disseminate scientific farming methods, efforts that met with mixed success. Second, the straightened resources of the many antebellum farmers inclined them against increased expenditures for public schools. Both of these developments have lent credence to the image of the farmer as a conservative opponent of common education. Agricultural journalists bemoaned the ordinary farmers' resistance to innovation while educational reformers criticized their poor school facilities and lack of commitment to common education. The complaint that ordinary farmers did not read agricultural journals seems borne out by estimates of their limited circulation.[48] But the assertion that "the rural population as a whole contributed little to the contemporary rise of the public common school," should be treated with caution.[49] As we shall see below, although farmers may have opposed school reform, they favored school attendance. Despite rural school committees' ritualistic complaints about the lack of parental cooperation, rural parents sent their children to school at higher rates than their urban neighbors, at both younger and older ages. Reform or no reform, the school played an important role in rural children's lives. But in the eyes of school reformers, attendance was not enough. The rural school crisis had more to do with poor physical facilities, poor equipment, untrained teachers, short sessions, and other deficiencies resulting from scant resources. These should be seen in the context of a general rural transformation prior to the Civil War. Before we attribute too much of the motivation for school reform to urban problems, we should acknowledge their rural counterparts in early nineteenth-century New England: depopulation, declining relative productivity, and a perceived crisis of rural values.

The rationale for common schooling was similar in rural and urban communities--schools should be supported because they teach morals, deference, citizenship, and the rudimentary skills children will need. However, in rural areas where attendance was high and resources low, reform discussions centered more on expenditures and control, while in urban areas reformers focussed more on the clients of the schools and anxieties about social disorder. Because the patterns and problems of schooling differed in demographically different towns, we now turn to a discussion of educational patterns in Massachusetts towns of different sizes.

VIII. Rural-Urban Differences in Massachusetts Schooling

We have computed educational statistics for towns grouped into six size categories, including Boston as a separate category (see Table IV-2 for the number of towns and the population in each category for 1840, 1860, and 1875).[50] There are two obvious problems with this mode of presentation. First, the rural-urban distinction had been blurred somewhat by 1840 and considerably by 1875. The "rural" towns of Massachusetts were in close proximity to large towns, and farming was widely accompanied by household industries such as shoemaking or straw weaving. The countryside was also dotted with small scale factories which produced items such as matches. The farming communities of mid-nineteenth-century Massachusetts, then, were transitional. They were tied in various ways to the emerging industrial order. Conversely, the cities of this period were semi-rural. Thus, Robert Frost, who grew up in Lawrence in the 1880's, remembered fondly his frequent walks in the surrounding countryside. After graduating from high school, he taught in Methuen, to which he simply walked from the big city each day.[51]

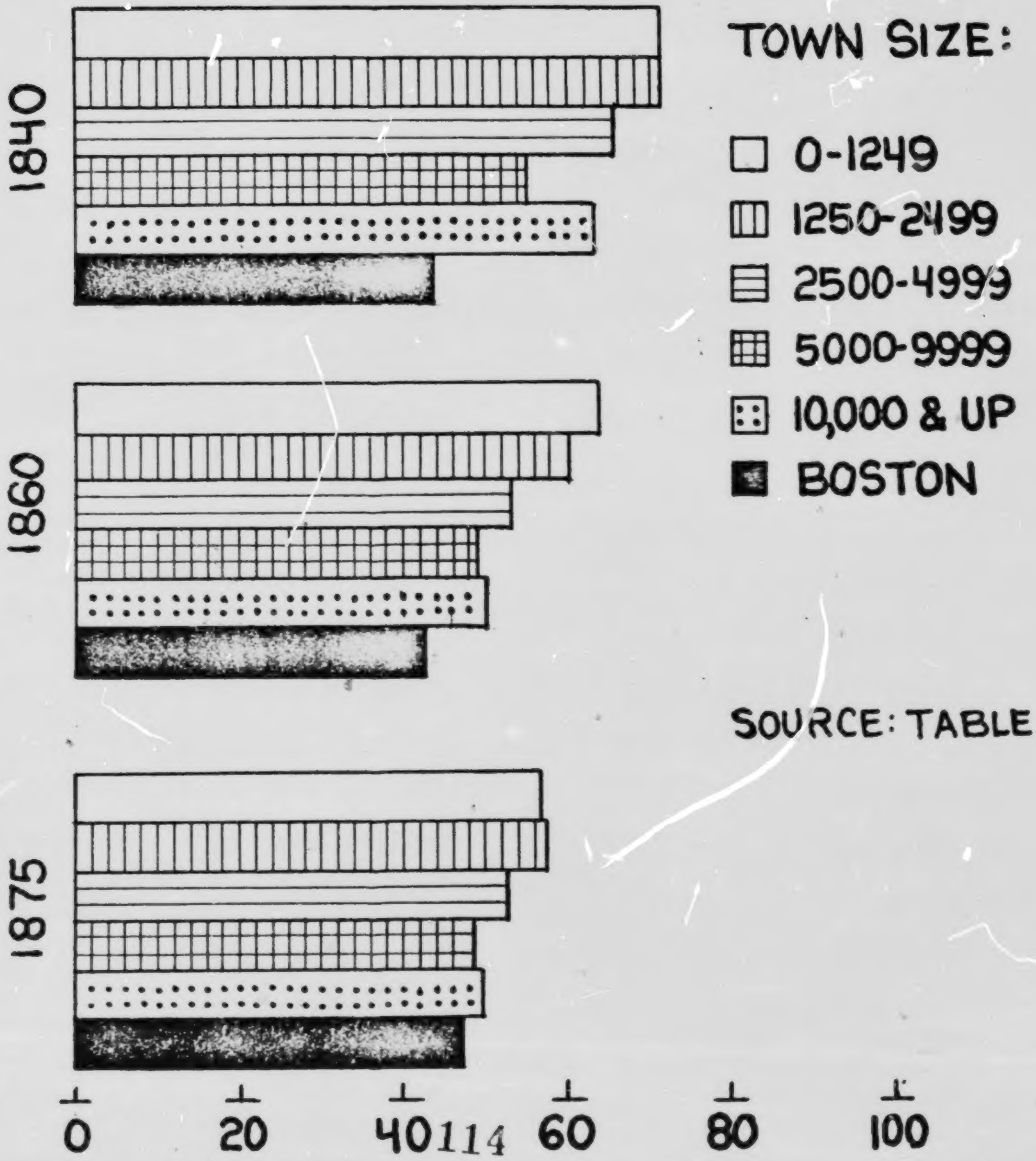
Second, as discussed above, the rural-urban continuum is not unidimensional; population size captures only one dimension of social change. Nevertheless, it can provide us with a starting point for analysis, and the charts and tables which follow do display substantial and systematic differences in schooling associated with population size.

The first clear pattern we note is the higher participation rate in rural schools (see Tables IV-3 to IV-7). The percent of children ages 0-19 in school is consistently and negatively related to town size. Given the traditional negative view of the commitment of rural areas to learning as well as modern research on other societies which show lower education, literacy, or intelligence in rural areas, one might have expected lower school attendance in nineteenth-century rural Massachusetts.[52] But this is not the case. Total participation as well as average daily attendance is higher at all age levels in the public schools; the picture does not change when private schooling is added (see Chart 1).[53] The percentage of children ages 0-19 in public and private school was steadily declining from 69.4 percent in 1840 to 58.1 percent in 1860 and to 55.0 percent in 1875. While the percentage of older children in school remained relatively constant, there was a sizable drop in the percentage of very young children attending school. The drop in the percentage of very young children attending school is a reflection of the growing conviction among educators and parents that early education was harmful to children (see Chapter VI below). Finally, there was a convergence in the rates of school attendance among communities of varying size.

There were also significant differences in the length of the school session among Massachusetts towns. Detailed information on the length of the school year are only available for the public schools; as a result, our analysis of variations by town size for this factor will be restricted to the public schools (see Chart 2). Whereas there was an inverse relationship between town size and school attendance, exactly the opposite is true for the length of the school year--the larger the town, the longer the school session. Overall, there is a

CHART NO. 1

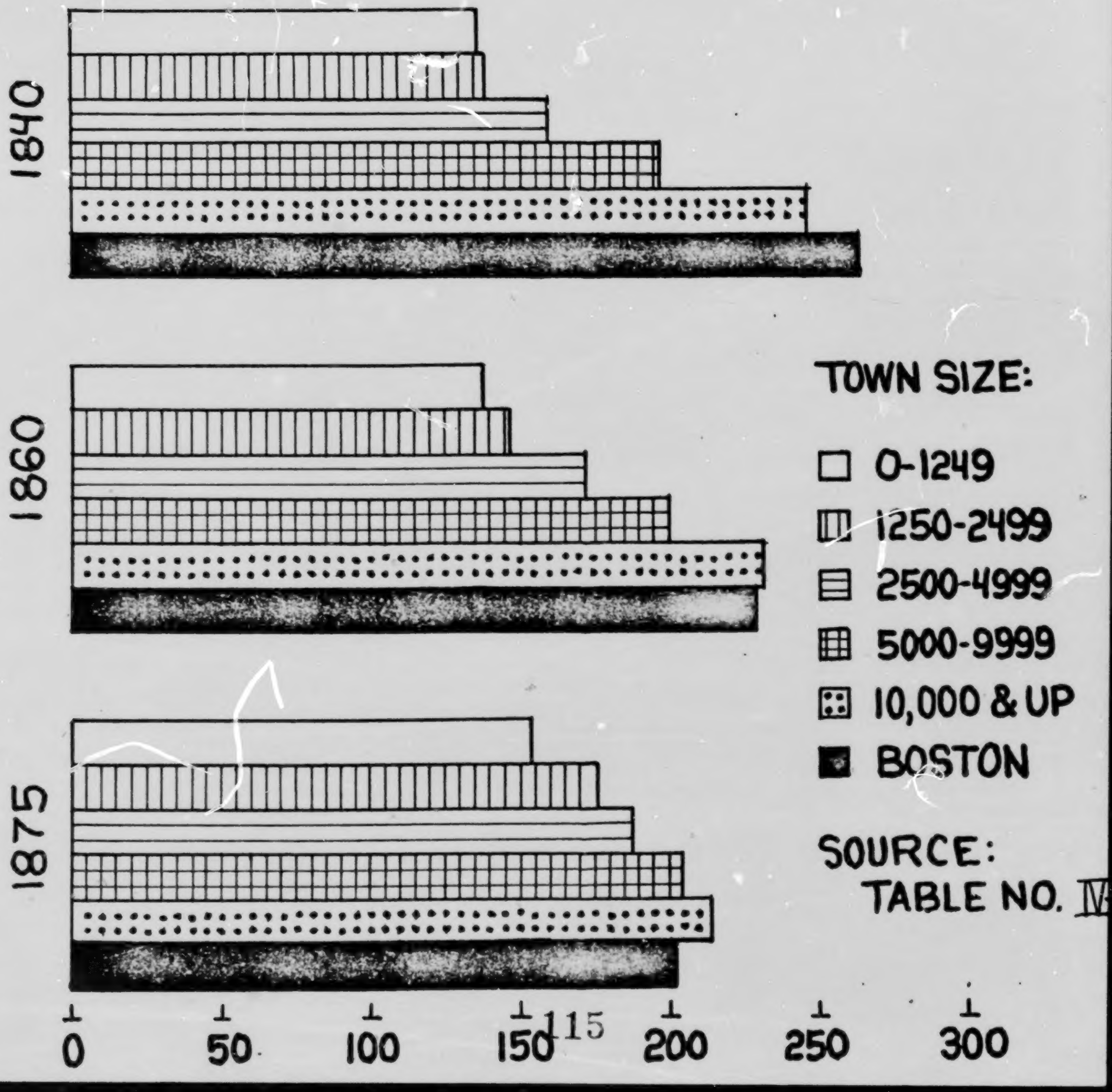
TOTAL PERCENTAGE OF CHILDREN AGES 0-19 IN PUBLIC AND PRIVATE SCHOOLS IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



SOURCE: TABLE NO.

CHART NO. 2

AVERAGE LENGTH OF PUBLIC SCHOOL SESSION IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



SOURCE:
TABLE NO. IV

statewide increase in the length of the school year from 145.8 days in 1840 to 158.8 days in 1860 and to 176.5 days in 1875. Similar to the pattern of school attendance, there is a convergence among Massachusetts towns in the length of the school year from 1840 to 1875.

The length of the school year and the average daily attendance combine to determine the days of school attended per school-age child in a given year:

$$\frac{\text{Length of school x average attendance}}{\text{Children ages 0-19}} = \begin{array}{l}\text{Days of school attended}\\ \text{per child ages 0-19}\end{array}$$

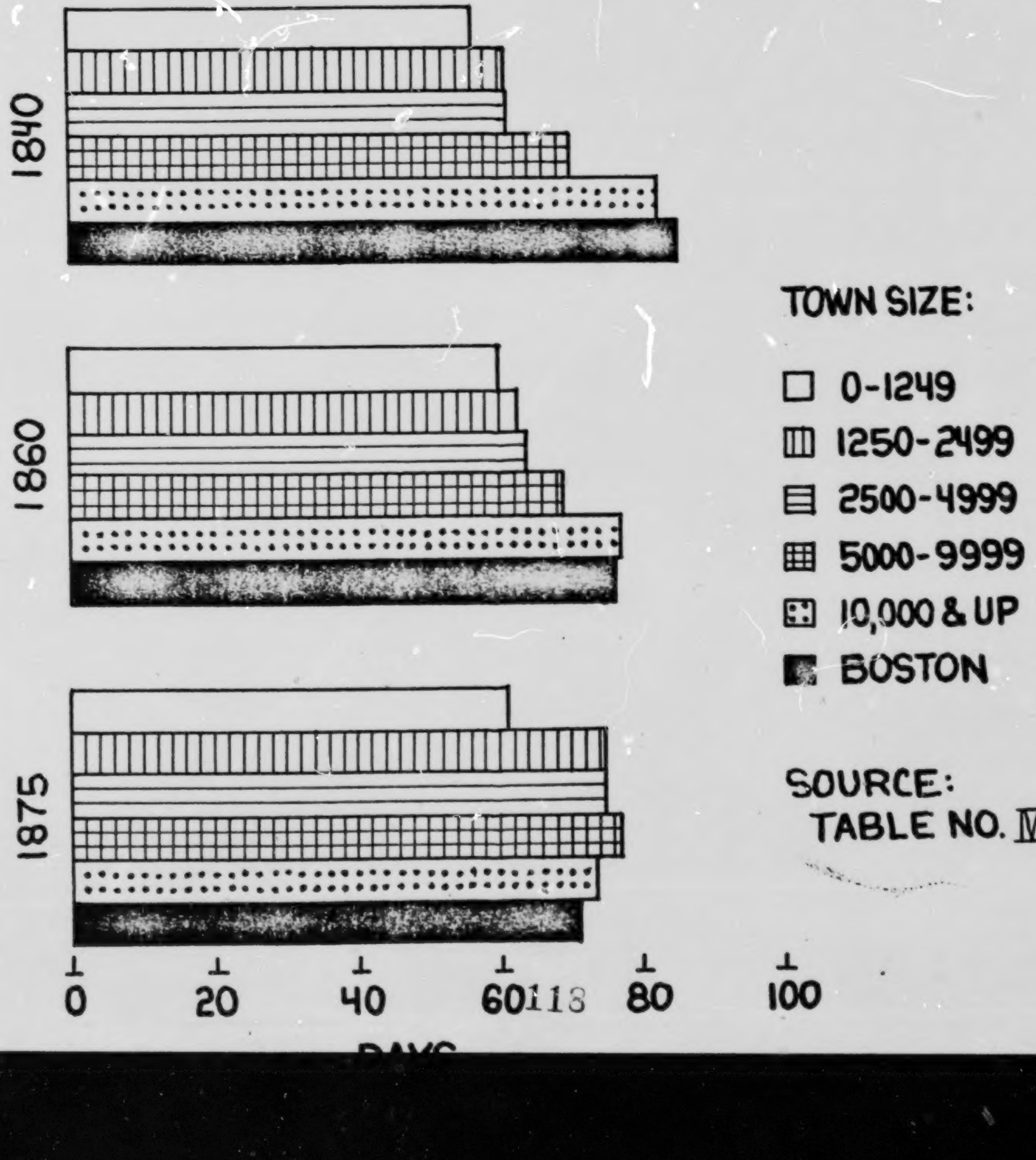
Chart 3 demonstrates the effect of the longer school year in larger towns. The length of the school year more than offsets the lower average daily attendance rates to produce higher per capita consumption of public and private education. In other words, fewer children went to school in the larger towns, but those who did went much longer each year and thus consumed more schooling. The number of days of schooling per child in Massachusetts rose from 60.3 days in 1840 to 63.1 days in 1860 and to 70.1 days in 1875. Again, there was a convergence of the number of days in school per child among Massachusetts towns throughout this period.

We can only begin to suggest the meaning of these interesting and remarkably systematic rural-urban differences and the tendency to convergence. The following observations are largely impressionistic and require more complex statistical analysis and further work in local sources. As of 1840--the earliest date when fairly complete figures are available, and prior to the major impact of the state's Board of Education founded in 1837--Massachusetts public school data reveal great differences between the largest and the smallest towns in total enrollment (32.4 percent vs. 62.4 percent), in average daily attendance (24.3 percent vs. 37.5 percent), and in length of school session (264.0 days vs. 136.0 days). In predominantly agricultural towns, short sessions accommodated the seasonal nature of farm work while the relative lack of alternative activities in winter boosted total enrollment. Conversely, in cities, child labor, though perhaps sporadic, was not seasonal, and long school sessions helped accommodate the recruitment of as many children as possible into the schools. On the other hand, participation rates were lower due to work opportunities and (we hypothesize) other diversions, as well as cultural and religious diversity which made the public schools alien or threatening to more people.

For the educational reformer--who believed that more education for more people was certainly a good thing--the rural attendance problem and the urban attendance problem were quite different. Their task in the countryside, where most school-age children already attended, was to increase the length of the school year, while in the larger cities, many children did not set foot in school all year and therefore, in the eyes of the reformers, needed recruiting. It is not sufficient to note, therefore, that local school reports in nineteenth-century Massachusetts were preoccupied with attendance. Rural reports are preoccupied with regularity of attendance; urban reports, while sharing this concern, increasingly reflect attention to non-attenders as the nineteenth century progressed. This concern seems characteristically urban. The bare figures thus suggest important differences in the relationship of school to community in small towns

CHART NO.

NUMBER OF DAYS OF SCHOOL ATTENDED PER CHILD AGES 0-19 IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



SOURCE:
TABLE NO. IV-10

and cities. Rural figures suggest cohesion and the limited but firmly established role of school attendance for children in the community. It was the quality and amount of rural schooling that worried reformers. In cities, with more mobile and more diverse residents, schoolgoing did not reflect cohesion. Schooling was looked upon as an instrument to create cohesion, but the clients were not always readily at hand.

These common sense reflections suggest the importance, not of town size, but of heterogeneity. Other recent scholarship, in contrast, has emphasized the central role of industrialization and has portrayed the public schools as the molders of a disciplined industrial work force. Of course, the issue is relative emphasis; no one denies outright the influence of ethnicity or occupational status in the history of the common people. Nor is there anything incompatible in the school's efforts to create harmony, social stability, and an industrious, compliant work force. Nonetheless, emphasis is of the essence in pursuing that elusive concept--causation.

First, however, we briefly present statistics by our six town groups for education variables other than attendance in order to see how rural-urban differences pervaded several aspects of the schooling process. In terms of teacher salaries, there were great differences between male and female teachers as well as between rural and urban systems (see Tables IV-11 to IV-14). Female teachers always received less than male teachers. At the state level, the average female monthly salary was only 50.6 percent of male salaries in 1860 and rose gradually to 56.9 percent of male salaries in 1875.

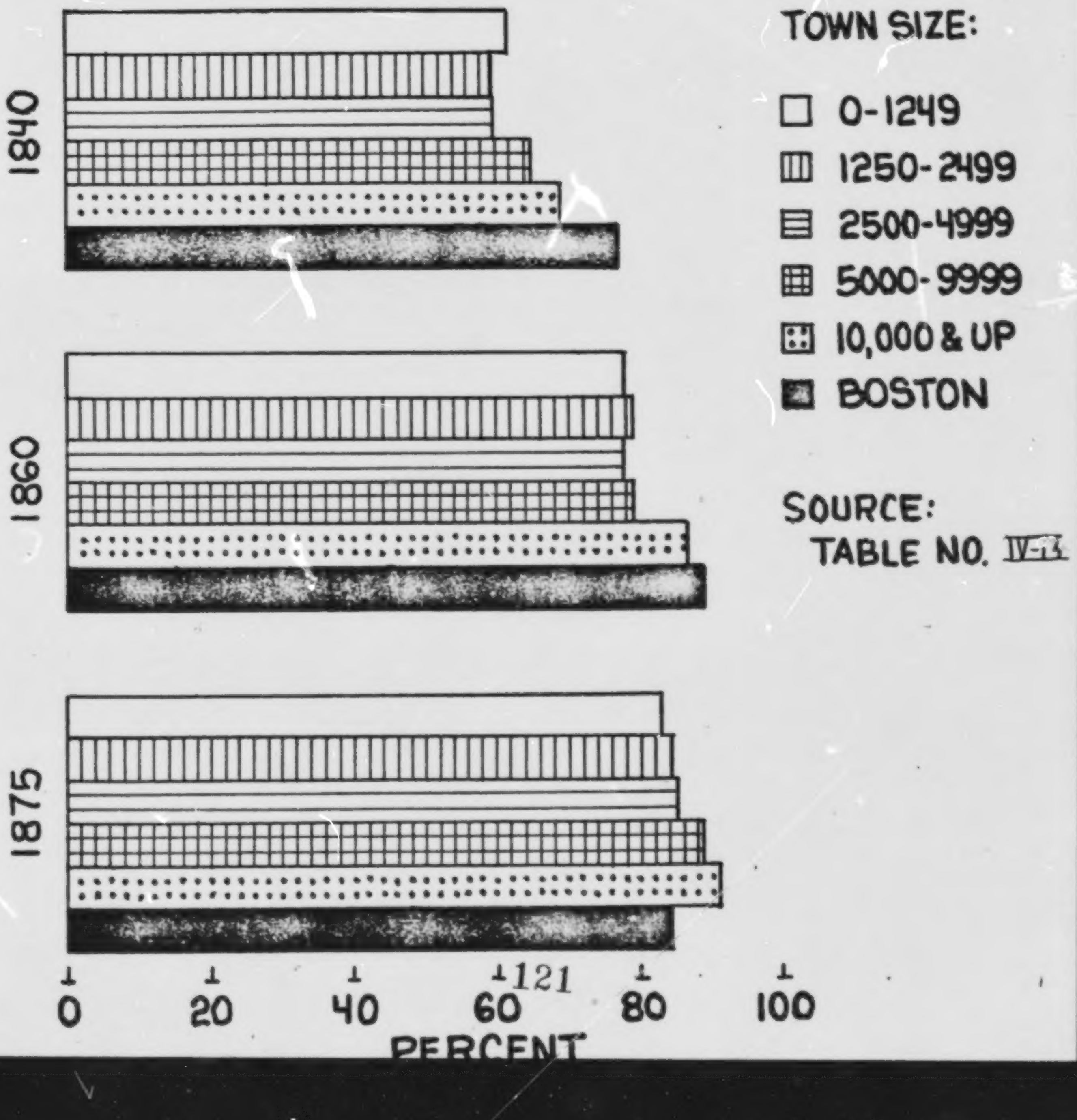
The discrimination in wages against women was the greatest in the largest towns and the least in the rural communities. Furthermore, for both male and female teachers, salaries were higher in the larger communities.

Throughout the period, rural schools paid lower wages, paid women teachers closer to the rate for men, but hired a lower proportion of women (see Chart No. 4). In rural nongraded district schools, with a higher proportion of older boys in winter, female teachers were deemed less appropriate than in the subordinate roles developing for them in urban graded schools headed by male principals. Also, because rural pay rates for both sexes were very much lower and closer to each other than urban rates, the pressure to economize by feminizing was not as compelling. Innovation on this matter emanated from larger towns. By 1875 rural school boards had conformed to the urban norm and substantially feminized teaching, but still paid them at rates less discriminatory than larger towns.

The average number of pupils per public school teacher and the average number of pupils per public school in Massachusetts declined from 1840 to 1875 (see Tables IV-15 and IV-16). There was a positive relationship between town size and the average number of pupils per public school teacher or the average number of students per public school in 1840, 1860, and 1875. In the smallest towns a teacher was virtually synonymous with a school; in the cities larger buildings with several teachers permitted grading while fostering the impersonality of larger classes and a developing bureaucracy.

CHART NO. 4

PERCENTAGE OF ALL TEACHERS THAT ARE FEMALE IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



SOURCE:
TABLE NO. IV-13

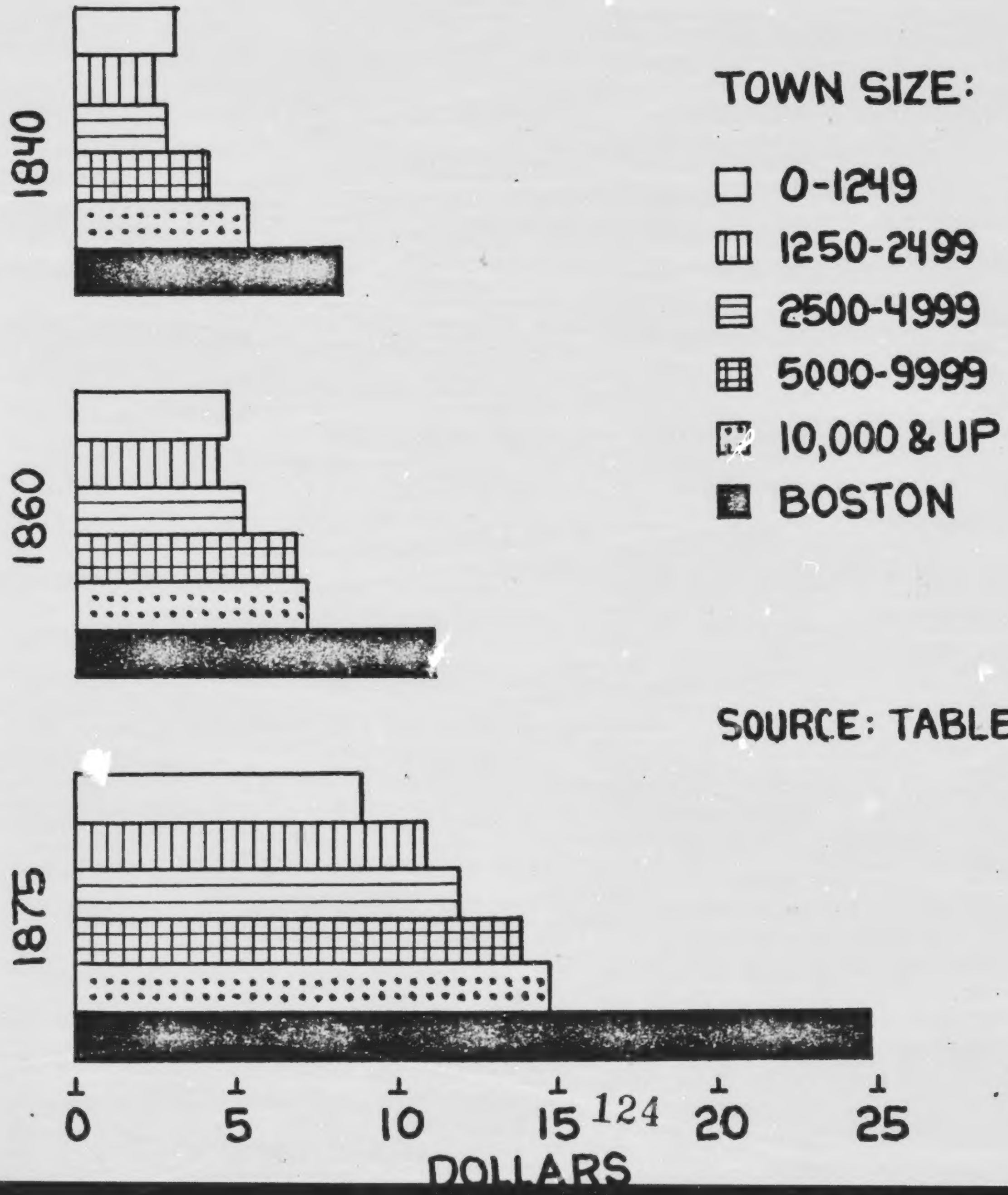
The expenditures on pupils also varied by town size (see Chart No. 5). The school expenditures per pupil increased dramatically from 1840 to 1875--reflecting in part the increasing cost of education as well as the inflation of money during that period.

The resources dilemma for small towns is illustrated by the fact that even though they achieved lower per pupil expenditures, smaller towns had to tax similar proportions of their rated property wealth as the larger towns; Boston had the highest per pupil expenditures in the state while its school budget required the lowest percent of property wealth (see Table No. IV-19). To some extent, higher urban expenditures may reflect differences in costs of living for teachers and not necessarily differences in quality of education. The differences in expenditures were great between the smallest towns ($3.09 per student in 1840) and the towns over 10,000 population ($5.35 per student in 1840); but, with the exception of high-expenditure Boston, the gap was considerably narrowed by 1875. One of Horace Mann's favorite devices for upgrading local expenditures was to publish annually a ranked list of per pupil expenditures in the public schools for all the towns in the state. Local school committees responded in their annual reports with dutiful statements of pride or shame concerning their high or low rating. Our figures for 1840, 1860, and 1875 suggest that such tactics worked to some degree.

In summary, statistics on education in towns of different population sizes reveal persistent and systematic rural-urban differences, with some tendency to convergence by 1875, as one might expect in a society undergoing a period of rapid and pervasive social change. There were, nonetheless, clear differences between demographically different communities regarding aspects of schooling which can be measured. We have suggested a few common sense reasons, gleaned largely from lettristic sources, for these differences. But how do we sort out the relative importance of economic, cultural, demographic, political, or religious changes in shaping the process of schooling? No statistical method can identify causes in the instrumental sense, that is, how something made something else happen. But let us ask the question at a simpler level. Many processes are going on in the growing towns or nineteenth-century Massachusetts--commercial development, industrialization, class stratification, immigration, and others. Which of these correlates best with the characteristics of urban school structures and attendance? This will help elucidate some possible causes and eliminate others. It is for this task that we designed our multivariate analysis of the ecology of schooling in these towns.

CHART NO. 5

PUBLIC SCHOOL EXPENDITURES PER STUDENT IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



SOURCE: TABLE NO. IV-17

IX. Multiple Regression Results for 1860

In the preceding section of this analysis, we subdivided our data for 1840, 1860, and 1875 into six categories based on town size in order to test for rural-urban differences in the school attendance characteristics of these towns. We discovered a pronounced and regular relationship between the categories of town size and educational variables for each of those years. It is possible, however, that the strength of the relationships between town size and school attendance or length of session are exaggerated by the presence of intervening variables, such as industrialization or the percentage of the population foreign-born, which may be highly correlated with both town size and educational characteristics. In addition, though subdividing town size into six categories permits a clear presentation of the material, it does not make full use of the data from a statistical point of view because distinctions in town size within each of those groups are lost.

As a result, we investigated the relationship between attendance variables and the socioeconomic and cultural characteristics of towns in more detail in 1860 using multivariate techniques of analysis and information from 316 Massachusetts towns.[54] We developed and considered over fifty different independent variables, but limited our final analysis to nine since the others were either not relevant from a conceptual point of view or were too highly correlated with some other independent variable already in our regression equation.[55] For a list of our final dependent and independent variables, see Table IV-23.

As indicated in our earlier discussion of urbanization, we included two different rural-urban variables--the total population of the area and the number of acres of farmland per capita. Total population is a measure of the scale effect of population size within a local governmental unit while the number of acres of farmland is a rough approximation of density. We could have used an estimate of the total number of acres in each town, which is available for 1860, rather than the number of acres of farmland since the latter is a reflection of agricultural development as well as density. However, we preferred to use farm acres because data on total acres per town are not available for 1840 and 1875, our other cross-sectional data sets, and we wanted to keep the variables as comparable as possible.[56] Because these two measures of density are highly correlated (.82), the substitution of one for the other does not introduce significant differences in our 1860 regression analysis. Our two measures of urban development, population size and the number of farm acres per capita, are inversely related, of course, but not very strongly (-.27). Therefore we may include both of them in our analysis in order to weigh their relative importance as predictors of educational development.

As we have seen above, school attendance patterns varied quite systematically by town size when grouped in six categories. In our multiple regression analysis we introduce not only a second urban variable, density, but several other variables: each town's commercial and industrial status, per capita wealth, pauper expenses, proportion of immigrants, and two crude measures of religious participation. This re-introduces some of the aspects of urban development which we excluded from our definition of urbanization. These variables may have characteristic associations with urbanization, but are not synonymous with it. The regression analysis will help sort out these economic and cultural indices and indicate the strength of their relationship to schooling patterns.

The 1860 United States Census did not provide town-by-town summaries of occupational data. Therefore, we calculated from other sources the percentage of the population ages fifteen and up in each town who were merchants (as an index of commercial development) and the percentage of the population ages fifteen and up who were engaged in manufacturing (as an index of industrial development).[57] The distinction between commercial and industrial development is important analytically because these two variables were not highly correlated in antebellum Massachusetts (.09). Manufacturing developed throughout the state whereas extensive commercial activity was more restricted to the larger, older urban centers such as Salem and Boston.

Even among the large population centers, there is not much overlap between those with the highest number of merchants and those with the greatest number of workers in manufacturing. In many towns, commercial and industrial development are successive phases of development, the former declining in importance as the latter increases.[58] Most cities rate high on both indices only at the time of the transition. Other cities, such as newly created factory towns like Lowell, never had a commercial phase. Also, especially in the early nineteenth century, geographical features influence the location of predominantly commercial towns (largely coastal) and industrial cities (near water power) at any given time. As a result, lists of the top quintile (63 towns) on these two separate indices had only twelve towns in common. Among the top commercial cities in 1860 were: Boston, Salem, Nantucket, Plymouth, Cambridge, Worcester, and Pittsfield. The cities with the highest proportion of manufacturing workers included Chicopee, Holyoke, Lowell, and Danvers. In the upper quintile on both variables were the industrializing coastal towns of New Bedford, Lynn, Gloucester, Marblehead, and Fall River.

One of our tentative conclusions from the grouped educational data was that towns with less taxable resources would have more difficulty in providing adequate educational facilities for their children. Therefore, we used the assessed valuation per capita as an index of taxable resources in each of the communities.[59] In addition, we hypothesized that communities with a higher level of per capita wealth would be more likely to encourage their children to attend school than those towns which were less affluent.

The pauper expenses per capita in each town was included as a possible measure of the extent to which different communities were burdened (and hence concerned) with providing public resources for the poor. Some nineteenth-century commentators argued that education was an effective means of reducing or even eradicating poverty. Therefore, we anticipated that areas with a high burden of public support for the poor might be more willing to provide more resources for the schools in order to reduce the burden of pauper support in the future.[60]

Studies of school attendance in the nineteenth century have usually found that children of foreign-born parents were less likely to attend school--partly because their parents were more apt to need the additional income their older children could earn, partly because foreign-born parents may not have valued extended education as much as their native counterparts, and partly because immigrants may have found the public schools more culturally or religiously offensive.[61] To test for this possibility, we wanted to include the percentage of the population who were foreign-born in our regression equations. Unfortunately, there are no town summaries of the percentage of the population foreign-born available in the published federal censuses. We therefore made an estimate on the basis of a straight-line interpolation of the percentage foreign-born from the Massachusetts state censuses of 1855 and 1865. Because the percentage of the population foreign-born remained relatively stable between 1855 and 1865 in the state, this procedure probably yielded reliable results on the relative levels of the foreign-born population in Massachusetts towns in 1860.

Because many of the studies of educational reform have stressed the importance of religion, we wanted to include some variable on the level of religious activity of the community. Systematic data on religious membership at the town level does not exist for Massachusetts in 1860. Consequently, it was necessary to use an approximation that was available--the number of church seats per capita.[62] As there is probably a three or five year lag between a sizable increase in church membership and church construction, this index reflects religious affiliation three or four years earlier. In addition, this index might also reflect differences in the relative affluence and concern about church buildings among the denominations. Finally, because Catholic parents were disturbed by many of the ideas that were taught within the public schools, they often either sent their children to parochial schools or kept them home. As an indication of the concentration of Catholics within communities, we included the number of Catholic Church seats per capita as our ninth and final independent variable.

The first dependent variable we investigated was the combined public and private school enrollment of children under twenty. There was considerable variation among the towns in school enrollment, with an average among the towns of 39.9 percent of children under twenty in school (see Table IV-22). However, there were no very strong relationships between school attendance and any one of the independent variables (see Table IV-21). The strongest simple correlation was between school attendance and the index of commercial development, but even that was relatively weak (.31).

As a result, our overall regression equation using the nine independent variables could only account for 22.2 percent of the variation in the percent of children under twenty in Massachusetts schools, the lowest percentage of explained variance of the three dependent variables we consider here.

The total population of the town was not a significant predictor of school enrollment after controlling for the effects of the other independent variables on the dependent variable (see Table IV-23 for the beta weights and other statistics for this particular analysis). Farmland per capita, our density measure, on the other hand, was a much stronger predictor of school enrollment. The less densely populated an area, the more likely children were to attend school. It may be that the further a child lived from school, the less likely he or she would be attending that school. However, our measure of density does not tell us much about this issue since even in rural areas district schools were scattered among the population; thus, the walking distance to a country school may not have been very much further than to an urban school. Our measure of density more likely reflects the rural and agricultural nature of the communities and the fact that children in such environments were actually more likely to attend school than their urban counterparts, as we discovered for the early nineteenth century in Chapter II.[63] The higher school enrollment of children in rural areas confirms our earlier discussion about the nature of the rural school crisis--the problem in rural areas was not how to encourage children to attend school during some part of the year, but how to increase the regularity of their attendance and the length of the school year, as well as the quality of their schools and teachers.

School enrollment in areas which were more commercial was higher while that in areas which were more industrial was lower. However, the commerce variable was not statistically significant in this equation. The negative relationship between manufacturing and school attendance may reflect the greater job opportunities for young people in industries; local children in these areas were more likely to be attracted by early employment, and teenagers from other communities would be more likely to migrate to these industrial towns in order to participate in the labor force rather than to attend the schools.

We wondered whether children from more affluent communities would be more apt to attend school because their parents would be more anxious to have been educated and because the quality of the schools and teachers in those communities might be more attractive. The regression analysis is compatible with this interpretation, in that there is a positive relationship between the assessed valuation per capita and school attendance; but the relationship is so weak that we conclude that the wealth of the community had very little impact on total school enrollment.

We were also curious whether children in areas of high public pauper expenditures would be more likely to attend school because of the greater public concern about education as an antidote for future poverty or whether this factor was offset by the fact that the children of paupers were probably less likely to attend schools. The results indicate a very weak, positive, but insignificant, relationship between pauper expenses per capita and the school attendance of children under twenty. Indeed, the expenditure per capita on paupers was not strongly related to any of our independent variables--even though there was considerable variation in this factor throughout the state.

Finally, we hypothesized that the religious participation and school attendance would be positively related since much of the impetus and concern with education came from individuals who had a strong religious orientation. Our regression analysis showed a very strong, positive relationship between school attendance and the number of church seats per capita--in fact, this was the strongest predictor of school attendance once we controlled for the effects of the other variables. In addition, the number of Catholic Church seats per capita and school attendance was strongly, negatively associated--suggesting that Catholic parents may have kept their children out of school because of their hostility to the existing public school systems and the unavailability of parochial schools in their neighborhoods. However, since our measure of religious participation is so crude, and since the inference is ecological, our conclusions on this issue are tentative.

This cross-sectional, town-level view of school enrollment of all children under twenty does not reveal one of the basic factors involved in the decision of parents to send their children to school. The single most important factor in determining school attendance is the age of the child. In our study of school enrollment registered in the manuscript federal census for eight Essex County (Massachusetts) towns in 1860 and 1880 (see Chapter VII), we found that age was the single best predictor of enrollment. Almost all children ages nine to twelve were in school. The difference in the patterns of school enrollment among those towns substantially reflected variations in the ages of entering and leaving school. Thus, it is important to realize that the variations in school enrollment in our regression analysis of Massachusetts towns in 1860 also resulted largely from differences in the pattern of school entering and leaving rather than any fundamental disagreement among these communities on the importance of all children receiving at least a few years of common school training.

The school returns for Massachusetts reported the number of public school students under five years old in school and the number of public school students fifteen years old and above in school; we therefore calculated two additional regressions which predicted the percentage of children ages zero to four or the percentage of children ages fifteen to nineteen in public schools. Using the same set of independent variables as in the analysis of school attendance of children under twenty, these new regression runs were able to account for a much larger proportion of the variation in school attendance (28.7 percent for the younger children and 29.4 percent for the older children). This reinforces our belief that the major differences in the pattern of school enrollment among these Massachusetts towns are at the younger and older ages. Furthermore, the single most important predictor of differences in school enrollment for both the younger and the older children is the number of farm acres per capita. Thus, the positive relationship between our index of rural and agricultural development and the school attendance of children under twenty is due in large part to the fact that a higher percentage of younger and older children attended school in the rural areas of Massachusetts than in the urban communities. It should not be imagined, however, that all of the difference between rural and urban towns disappears when age is controlled. At the middle school-age range, five to fourteen years old, school enrollment was nearly universal by 1860; the state average was 94 percent (average of the town averages, with a standard deviation of 13.6 per cent). Even within this slight variation, however, a regression equation yielded an R^2 (per cent of variation explained) of 7.3 per cent. The only statistically significant independent variable in the equation was the density measure (significant at .01 level). Even on this most common educational practice, the school enrollment of children age five to fourteen, the Massachusetts towns differed on a rural-urban basis.

In 1860, prior to effective compulsory schooling enforcement, school enrollment was an alloy of supply and demand. Both the number and type of schools supplied might influence enrollment. In very sparsely populated towns, distance from school may have influenced enrollment and daily attendance; we have found no direct evidence of this problem, but the location of rural district schools was often hotly contested. In some rapidly growing cities, supply of schools did not always keep pace with demand, and children were turned away.[64] Furthermore, the lack of parochial schools probably inhibited the enrollment of some Catholic children, despite the supply of public schools. Nonetheless, most towns coped successfully in keeping supply of public schooling up to the level of demand, and parochial schools also responded to demand. We therefore associate school enrollment levels more with parental demand than with supply.

We now turn to a different aspect of schooling patterns, one more clearly associated with supply--the length of the public school year. An examination of the determinants of the length of the public school year in all Massachusetts towns may provide us with some indication of the committment of different types of communities to education. A shorter school session was one important way of reducing the high costs of providing education for children.

Whereas the regression equation for school enrollment could only account for 22.2 percent of the variance, the same set of independent variables predicts 55.0 percent of the variation in the length of the public school year among Massachusetts towns. Since the amount of variation in the length of the public school year is not much larger than the variation in school enrollment among these towns, it appears that the length of the public school year is much more related to the socio-economic and cultural characteristics of these communities than school enrollment.

Urbanization as measured by the population of the town is moderately, positively correlated with the length of the public school year (.31), but that relationship becomes insignificant after we control for the effects of the other independent variables (see Table IV-24 for the beta coefficients for this analysis). Although population size is not an important predictor of the length of the school year, the number of farm acres per capita is very strongly, negatively related to the length of the school session. This supports the complaints of nineteenth-century school reformers that rural, agricultural communities were avoiding educational expenditures by offering shorter school essions. The length of the public school year in Massachusetts, then, is not so much a function of population size per se, but of the rural and agricultural condition of those communities, as measured by our density index.

When we leave our rural-urban measures and look at economic variables, the regression equation on length of school session again reveals a distinction between commercial and industrial development. Communities which are more commercialized had a longer school year while those which are more industrialized had a shorter school year in 1860. This is similar to our findings for school enrollment--the communities which are more commercialized provided a longer school year and attracted a higher proportion of children into those schools while the opposite tendencies are true for the more industrialized areas.

As with school enrollment, the relationship between the length of the public school year and the assessed valuation per capita is weak and insignificant. We had hypothesized that communities with more taxable resources would be willing to expend more money to maintain a longer school year. This hypothesis is confirmed at the level of simple correlations; but after we control for the effects of the other independent variables, the relationship between our index of wealth and the length of the public school year becomes weak. Similarly, the results indicate only a very weak, positive relationship between the pauper expenses per capita and the length of the public school year. Neither of these associations was statistically significant.

There was a positive and significant relationship between the percentage of the population foreign-born and the length of the public school year. This suggests that those communities that experienced a rapid influx of foreigners in the 1840's and 1850's were anxious to provide more educational opportunities in order to hasten the process of assimilating the children of the foreign-born parents into American society. This result is not surprising since nineteenth-century educational reformers were very concerned with the problems of assimilating the foreign-born population and saw education as the best means of achieving this foal. Neither of our religious variables displayed a statistically significant relationship to length of public school year. Our measures of religious participation and of Catholicism are very crude, and it is difficult to make inferences about subgroups of the population from ecological data. What is needed at this point are in-depth studies of the educational ideas and activities of various religious groups within the Commonwealth in the antebellum period.[65]

In sum, the variation in length of public school session among Massachusetts towns in 1860 was quite sensitive to measurable town characteristics; in particular longer school sessions were associated with higher population density, commercial development, and numbers of immigrants. Interpreting this finding is difficult. Because length of public school session was a policy matter in the hands of school committees, it may serve as a measure of commitment to education. Alexander Field has pressed the inference even further, arguing that length of school session may serve as an index of capitalist reformers' concern to discipline an industrial work force. But this does not fit very well with our evidence, which suggests, other things being equal, that longer sessions were associated with a high number of merchants, not a high number of manufacturing workers.[66] Also, there is a more straightforward reason for the rural-urban differential: rural child labor was seasonal, encouraging shorter school sessions; urban child labor was less seasonal and less compatible with school attendance, encouraging longer school years, to catch as many kids as possible. Third, we must beware of the dangers of moving from cross-sectional data to longitudinal inferences. At a given time, longer school sessions were associated with dense, urban places, but to attribute this to educational reform, a dynamic concept, requires one to look at trends over time. In fact, (see Table IV-8) the reform was taking place in rural areas, where school sessions increased substantially from 1840 to 1875, not in large towns, where length of school session declined somewhat during the very years when large-scale manufacturing was increasing.

Cross-tabulations and regressions yield associations; they do not tell us the reasons for the associations. Yet we feel that the evidence supports the following interpretation. Length of public school session was influenced both by the child labor patterns of a town and by the town's willingness to pay for more public education. Both factors led to shorter sessions in sparsely-populated, agricultural towns. Longer sessions were characteristic of more highly commercial towns, which, among the larger towns, seem to have had higher levels of attendance as well. Independent of these characteristics, towns with larger numbers of foreign-born inhabitants had longer school sessions, underscoring the acculturative functions of public schooling.

We now turn to our final attendance measure--the number of days of schooling per person under twenty in Massachusetts in 1860. This variable is calculated by multiplying the average percent of children under twenty in public schools daily by the length of the public school year, multiplying the percentage of children under twenty in private schools by our estimate of the length of the private school year, and adding the two products of these calculations. The variation among Massachusetts towns in the number of days in public and private school per person under twenty is slightly higher than the variation in the percentage of persons under twenty in school or the variation in the length of the public school year. The socio-economic characteristics of these towns accounts for 25.1 percent of the variation in the number of days in school per person under twenty (compared to 55.0 percent of the variation in the length of the public school year and 22.2 percent of the variation in the percentage of children under twenty in school).

The number of days of schooling per person under twenty is negatively related to the population of the town, but the strength of that association is very weak (see Table IV-16 for the beta weights for this analysis). The number of farm acres per capita are moderately, negatively (and significantly) related to the number of days in school per person under twenty. Thus, although town size itself is not a key predictor, children living in the most rural and agricultural communities obtained considerably less education--largely because the length of the public school year in these communities was less than in the state's more densely populated towns.

The children who gained the most in terms of overall education were those living in towns which were more commercialized. The combination of much longer public school sessions and slightly higher rates of school attendance resulted in a very strong, positive relationship between the number of days in school per person under twenty and the percentage of the population ages fifteen and up who were merchants. Children in the more industrialized towns, on the other hand, received less education. In those towns, the combination of a slightly shorter school year and a smaller percentage of children attending school results in a moderately, negative relationship (not statistically significant) between the number of days in school per person under twenty and the percentage of the population ages fifteen and up who were engaged in manufacturing. This latter finding is not particularly surprising in view of the fact that young people migrating to industrial areas were more apt to work than attend school there. As a result, the overall rates of school attendance in manufacturing communities would be lower while school attendance rates elsewhere should be inflated because teenagers who remained in their communities rather than migrating to find work would be more likely to attend the local schools.

There is a positive but weak relationship between the assessed valuation per capita and the number of days in school per person under twenty. Children in wealthier communities received more education--because they attended schools in slightly higher percentages and because their public schools were kept open longer. The relationship between pauper expenses per capita and the number of days in school per person under twenty is weak and insignificant. If education was seen as a means of minimizing the extent of poverty in the future, the communities which were particularly burdened with expenditures for paupers in Massachusetts in 1860 were either unable or unwilling to exert more effort to induce their young people to obtain more education than in other towns less beset by the problems associated with poverty.

There was a weak, positive relationship, not statistically significant, between the percentage of the population foreign-born and the number of days in school per person under twenty--largely because of the longer length of the public school year in those areas. We do not think that the foreign-born population actually received more years of education than the native population. Rather, towns which experienced a large influx of foreign-born were more likely to maintain their schools for a longer part of the year. Indeed, it may have been the children of native parents who benefited the most from the longer school year since they were probably much more likely to attend those schools than their foreign-born counterparts.

Finally, children in areas which were more religiously oriented, as measured by the number of church seats per capita, received more education, other things being equal. Though the length of the public school year in these communities were slightly lower than elsewhere, there was a much higher percentage of their children attending school. Children from towns with a higher concentration of Catholics, on the other hand, received less education. Since this was mainly the result of a smaller percentage of children in the more Catholic towns attending school, one might speculate that Catholic parents were reluctant to send their children to public schools, which often taught ideas which were contrary to the teachings of the Catholic Church.

X. Conclusions

In this chapter we have argued that a more precise and limited definition of urbanization should be used in studying the impact of population growth on educational development. Specifically, we have limited our definition to population size and density. We investigated the important correlates of school attendance, which varied systematically and substantially on a rural-urban population size basis. We included our two urban status variables in multiple regression equations which also included independent variables relating to economic and cultural characteristics of Massachusetts' 316 towns in 1860.

We have, in this and earlier chapters, established school attendance trends both over time and across space. Our barebones definition of urbanization and our multivariate analysis, which reintroduced variables excluded from the definition of urbanization, have contributed to the following picture. Despite the common use of population-size figures to describe the rural-urban continuum, school attendance was more clearly related to the density and the agricultural nature of mid-nineteenth century Massachusetts towns. Sparsely populated towns had a higher proportion of their children aged zero to nineteen enrolled at school, particularly at the youngest and oldest age ranges. Their school sessions were shorter and consequently the days of school consumed per child per year was lower. This seems consonant with the role of children and of education in agricultural communities, which valued common schooling for its social as much as for its intellectual functions, but whose relatively meager resources and patterns of seasonal farm labor encouraged short school sessions.

The introduction of other variables has allowed us to distinguish among aspects of social and economic development that occurred with urbanization but are not synonymous with it. Among the denser, larger towns, then, there appear to be characteristic differences in school attendance patterns depending upon whether a town had a large percentage of merchants, indicating commercial development, on a large proportion of its workforce engaged in manufacturing. Commercial towns displayed a greater association with long school sessions and higher school enrollment than manufacturing towns. Urbanization alone, then, even in terms of density, is not a very sophisticated predictor of school attendance variables unless we know what type of economic activity was going on in a town. Commercial development led to increased schooling; manufacturing development led to short-term disruptions of educational participation, whether because of child-labor opportunities or other factors, such as greater indifference of the population to schooling.

Independent of these workforce characteristics, the strong association of both religion and immigration with attendance variables suggests that they may have played important roles. Our general index of religious participation, strongest in small-town Protestant Massachusetts, was strongly associated with high enrollments, perhaps reflecting Protestants' commitment to the education of their own and others' children and perhaps indicating a general commitment to institutional development: people who went to church sent their children to school. Our index of Roman Catholicism was related to education in the opposite way, as expected.

Our measure of foreign-born population did not significantly relate to enrollment at this ecological level of analysis (though as we shall see in Chapter VIII, immigrant status did affect the attendance of individuals). Nonetheless, other things being equal, towns with a high percentage of immigrants had longer public school sessions, suggesting concern on the part of school committees to acculturate foreigners.

Further generalizations await the concluding section of this report. In the chapters that follow, we broaden our analysis to include educational variables other than attendance and complement our town-level ecological approach by looking at the behavior of individuals and by examining two towns in detail. It should become apparent to the reader, as it has to us, that urbanization, if carefully defined, is but one strand in a complex web of development that influenced education in nineteenth-century Massachusetts.

FOOTNOTES TO CHAPTER IV

1. William Torrey Harris, "Elementary Education," in Nicholas M. Butter, ed., Education in the United States (Albany, 1900), pp. 46-47. Representative documents in the mountains of literature on rural schools include Horace Mann, Massachusetts Board of Education Annual Report, X (Boston, 1847), pp. 129-132; Barnas Sears, Massachusetts Board of Education Annual Report, XVIII (Boston, 1854), pp. 56-57; Ellwood Cubberley, Rural Life and Education (Cambridge, Mass., 1914); National Education Association, Report of the Committee of Twelve on Rural Schools (Chicago, 1897).

   Attempts by historians to analyze the rural school "problem" are few; for example, see David Tyack, "The Tribe and the Common School: Community Control in Rural Education," American Quarterly, 14 (March 1972), 3-19; Ann Keppel, "The Myth of Agrarianism in Rural Educational Reform, 1890-1914," History of Education Quarterly, 2 (1962), 100-112.

2. Horace Mann, Massachusetts Board of Education Annual Report, XII (Boston, 1849), p. 59. The key text is Ellwood P. Cubberly, Public Education in the United States (Boston, 1919). More sophisticated but in the same mold is Lawrence A. Cremin, The American Common School (New York, 1951).

3. Bernard Bailyn, Education in the Forming of American Society (Chapel Hill, 1960), p. 14. See also, Lawrence A. Cremin, The Wonderful World of Ellwood Paterson Cubberly: An Essay on the Historiography of American Education (New York, 1965).

4. Lawrence A. Cremin, American Education: The Colonial Experience (New York, 1970).

5. For the antebellum period, see Michael B. Katz, The Irony of Early School Reform: Educational Innovation in Mid-Nineteenth Century Massachusetts (Cambridge, Mass., 1968); Carl F. Kaestle, The Evolution of an Urban School System, New York City, 1750-1850 (Cambridge, Mass., 1973); Stanley K. Schultz, The Culture Factory: Boston Public Schools, 1789-1860 (New York, 1973); Michael B. Katz, Class, Bureaucracy, and Schools: The Illusion of Educational Change in America, 2nd ed. (New York, 1975); Samuel Bowles and Herbert Gintis, "Capitalism and Education in the United States," Socialist Revolution, 5 (July-September 1975), 101-138; and Alexander Field, "Educational Reform and Manufacturing Development in Mid-Nineteenth-Century Massachusetts" (unpub. Ph.D. dissert., University of California, Berkeley, 1974).

   For later development of public schooling, see Marvin Lazerson, Origins of the Urban School: Public Education in Massachusetts, 1870-1915 (Cambridge, Mass., 1971); Edward

A. Krug, The Shaping of the American High School, 1880-1920 (Madison, 1964); Edward A. Krug, The Shaping of the American High School, 1920-1941 (Madison, 1972); Clarence J. Karier, et al., eds., Roots of Crisis: American Education in the 20th Century (Chicago, 1972); Clarence J. Karier, Shaping the American Educational State: 1900 to the Present (New York, 1975); Joel H. Spring, Education and the Rise of the Corporate State (Boston, 1972); and David B. Tyack, The One Best System (Cambridge, Mass., 1975). For more optimistic assessments, see Selwyn K. Troen, The Public and the Schools: Shaping the St. Louis System, 1838-1920 (Columbia, 1975); and Diane Ravitch, The Great School Wars: New York City, 1805-1973 (New York, 1974).

6. Katz, Irony of Early School Reform, p. 218.

7. Schultz, Culture Factory, p. ix.

8. Kaestle, Evolution of an Urban System, p. 190.

9. Tyack, One Best System, pp. 5-6. See his caveats that follow this definition. He does not see urbanization as an abrupt or strictly linear process.

10. Ibid., p. 6.

11. Recent attempts to separate and analyze the independent variables associated with the school attendance of individual children include Michael B. Katz, "Who Went to School?" History of Education Quarterly, 12 (Fall 1972), 432-454; Selwyn K. Troen, "Popular Education in Nineteenth-Century St. Louis," History of Education Quarterly, 13 (Spring 1973), 23-40; Frank Denton and Peter George, "Socio-Economic Influences on School Attendance: A Study of a Canadian County in 1871," History of Education Quarterly, 14 (Summer 1974), 223-232; and Carl F. Kaestle and Maris A. Vinovskis, "Quantification, Urbanization, and the History of Education: An Analysis of the Determinants of School Attendance in New York State in 1845," Historical Methods Newsletter, 8 (December 1974), 1-9. See Chapter VII below.

12. See Howard Becker, Through Social Values to Social Interpretation (Durham, N.C., 1950); Philip H. Hauser, "Observations on the Urban-Folk and Urban-Rural Dichotomies as Forms of Western Ethnocentrism," in The Study of Urbanization, eds. Philip H. Hauser and Leo F. Schnore (New York, 1965), pp. 503-517; R. E. Pahl, "The Rural-Urban Continuum," Sociologia Ruralis, 6 (1966), 299-329; Joseph R. Gusfield, "Tradition and Modernity: Misplaced Polarities in the Study of Social Change," American Journal of Sociology, 72 (January 1967), 351-362.

Helpful discussions of scholarship on urbanization are found in Leonard Reissman, The Urban Process: Cities in

Industrial Societies (New York, 1964); Charles Tilly, ed., An Urban World (Boston, 1974). Seminal essays by members of the Chicago School are reprinted in Richard Sennett, ed., Classic Essays on the Culture of Cities (New York, 1969).

13. On Wirth, see Hauser, "Ethnocentrism," p. 506; Pitirim Sorokin and Carle C. Zimmerman, Principles of Rural-Urban Sociology (New York, 1959), p. 14; Otis D. Duncan, "Community Size and the Rural-Urban Continuum," in Cities and Society, eds. Otis D. Duncan and Albert J. Reiss (Glencoe, Ill., 1957), p. 35; Pahl, "Rural-Urban Continuum," p. 299.

14. Hauser, "Ethnocentrism," pp. 508-509, citing Otis D. Duncan and Albert J. Reiss, Social Characteristics of Urban and Rural Communities, 1950 (New York, 1956).

15. Duncan, "Community Size," p. 40.

16. Robert C. Beales, Fern K. Willits, and William P. Kuvlevsky, "The Meaning of Rurality in American Society: Some Implications of Alternative Definitions," Rural Sociology, 30 (September 1965), p. 260.

17. Richard Dewey, "The Rural-Urban Continuum: Real but Relatively Unimportant," American Journal of Sociology, 66 (July 1960), p. 65.

18. Hope Tisdale /Eldridge7, "The Process of Urbanization," Social Forces, 20 (March 1942), p. 312.

19. Dewey, "Rural-Urban Continuum," pp. 63-65.

20. Aidan Southall, "An Operational Theory of Role," Human Relations, 12 (February 1959), p. 29. See also William Kolb, "The Social Structure and Function of Cities," Economic Development and Cultural Change, 3 (October 1954), 30-46.

21. Philip M. Hauser, "Urbanization: An Overview," in The Study of Urbanization, eds. Hauser and Schnore, pp. 19, 25.

22. Leo F. Schnore, "Population Theories and Social Change," (Madison, University of Wisconsin Center for Demography and Ecology, Working Paper No. 72-13), p. 51. Also see Leo F. Schnore, "The Rural-Urban Variable: An Urbanite's Perspective," Rural Sociology, 31 (June 1966), 131-155.

23. G. Lenski, The Religious Factor, rev. ed. (New York, 1963), p. 328; Bert F. Hoselitz, "A Survey of the Literature on Urbanization in India," in India's Urban Future, ed. Roy Turner (Berkeley, 1962); Herbert J. Gans, "Urbanism and Suburbanism as Ways of Life," Human Behavior and Social Processes, ed. A.M. Rose (London, 1962).

24. Claude S. Fischer, "On Urban Alienation and Anomie: Powerlessness and Social Isolation," American Sociological Review, 38 (June 1973), 311-326; Albert J. Reiss, Jr., "Rural-Urban and Status Differences in Interpersonal Contacts," American Journal of Sociology, 65 (1959), 182-195.

25. Oscar Lewis, "Further Observations on the Folk-Urban Continuum, and Urbanization with Special Reference to Mexico City," The Study of Urbanization, eds. Hauser and Schnore, p. 495.

26. Gideon Sjoberg, "The Rural-Urban Dimension in Preindustrial, Transitional, and Industrial Societies," in Handbook of Modern Sociology, ed. Robert E. L. Faris (Chicago, 1964), pp. 127-159.

27. Glenn V. Fuguitt, "The City and Countryside," Rural Sociology, 28 (September 1963), 246-261.

28. For example, see Daniel Lerner, The Passing of Traditional Society: Modernizing the Middle East (Glencoe, Ill., 1958); and, more recently, Allan Schnaiberg, "The Modernizing Impact of Urbanization: A Causal Analysis," Economic Development and Cultural Change, 20 (October 1971), 80-104; and Alex Inkeles and David H. Smith, Becoming Modern: Individual Change in Six Developing Countries (Cambridge, Mass., 1974).

For attempts to apply the modernization concept to early American history, see Richard D. Brown, Modernization: The Transformation of American Life, 1600-1865 (New York, 1976); and Maris A. Vinovskis, "Demographic Changes in America from the Revolution to the Civil War: An Analysis of the Socio-Economic Determinants of Fertility Differentials and Trends in Massachusetts from 1765 to 1860" (unpub. Ph.D. dissert., Department of History, Harvard University, 1975), pp. 113-142.

29. Eldridge's criterion for the urbanization of a region or nation, the number of cities (as well as their size), is not pertinent to our quantitative design because we focus on the educational characteristics of particular rural and urban places within the society, relative to each other. We do, however, present some data on the level of urbanization according to her criterion in the descriptive section which follows.

30. Duncan, "Community Size," p. 37.

31. Urbanization here refers to the percent change in urban population as a proportion of the total population. On the complexities of other definitions, see Jeffrey G. Williamson, "Antebellum Urbanization in the American Northeast," Journal of Economic History, 25 (December 1965), 595-596; and Eric E. Lampard, "The Evolving System of Cities in the United States: Urbanization and Economic Development," Issues in Urban Economics, eds. Harvey S. Perloff and Lowdon Wingo, Jr. (Baltimore, 1968), pp. 110-111.

32. George R. Taylor, "American Urban Growth Preceding the Railway Age," Journal of Economic History, 27 (September 1967), 308-339. See also Richard D. Brown, "The Emergence of Urban Society in Rural Massachusetts, 1760-1820," Journal of American History, 61 (June 1974), 29-51.

33. Williamson, "Antebellum Urbanization," p. 599. See also Jeffrey G. Williamson and Joseph A. Swanson, "The Growth of Cities in the American Northeast, 1820-1870," Explorations in Entrepreneurial History, 4 (Fall 1966, Supplement), 3-101.

34. Williamson, "Antebellum Urbanization," p. 607.

35. Lampard, "Evolving System of Cities," p. 118.

36. See for example, Schultz, Culture Factory, on the antebellum crisis in Boston; Raymond A. Mohl, Poverty in New York, 1783-1825 (New York, 1971), for New York's strains in the 1820's; Roger Lane, Policing the City: Boston, 1822-1885 (Cambridge, Mass., 1967), chapter one, for Boston in the 1820's; and Michael Frisch, Town into City: Springfield, Massachusetts and the Meaning of Community, 1840-1880 (Cambridge, Mass., 1972), on Springfield's crisis of the 1870's. The prominence of the theme is indicated by the title of Part Five of a recent anthology: "The Recurrent Urban Crisis," in Cities in American History, eds. Kenneth T. Jackson and Stanley K. Schultz (New York, 1972).

37. On life expectancy in antebellum Massachusetts, see Maris A. Vinovskis, "The 1789 Life Table of Edward Wigglesworth," Journal of Economic History, 31 (September 1971), 570-590; and Maris A. Vinovskis, "Mortality Rates and Trends in Massachusetts Before 1860," Journal of Economic History, 32 (March 1972), 184-213.

38. On the Five Points, see Carroll Smith Rosenberg, Religion and the Rise of the American City: The New York City Mission, 1812-1870 (Ithaca, 1971), pp. 34-36; on conditions of health in Boston, see John B. Blake, Public Health in the Town of Boston, 1630-1822 (Cambridge, Mass., 1959) and Barbara Gutmann Rosenkrantz, Public Health and the State: Changing Views in Massachusetts, 1842-1936 (Cambridge, Mass., 1972).

39. Kaestle, Evolution of an Urban School System; Lane, Policing the City.

40. The classic work is Oscar Handlin, Boston's Immigrants: A Study in Acculturation, rev. ed. (Cambridge, Mass., 1959); see also Robert Ernst, Immigrant Life in New York City, 1825-1863 (New York, 1949); Donald B. Cole, Immigrant City: Lawrence, Massachusetts, 1845-1921 (Chapel Hill, N.C., 1963).

41. Constance McLaughlin Green, *Holyoke, Massachusetts: A Case Study of the Industrial Revolution in America* (New Haven, 1939).

42. David Ward, *Cities and Immigrants: A Geography of Change in Nineteenth Century America* (New York, 1971), p. 106. See also David Ward, "The Internal Spatial Structure of Immigrant Residential Districts in the Late Nineteenth Century," *Geographical Analysis*, 1 (October 1969), 337-353; Virginia Yans McLaughlin, "Patterns of Work and Family Organization: Buffalo's Italians," *Journal of Interdisciplinary History*, 2 (Autumn, 1971), 299-314.

43. On the increasing productivity, see Robert Gallman, "The Pace and Pattern of American Economic Growth," in *American Economic Growth: An Economist's History of the United States*, eds. Lance Davis, et al. (New York, 1972), pp. 15-60. On wealth inequality, see Peter Lindert and Jeffrey Williamson, "Three Centuries of American Inequality" (working paper, University of Wisconsin, Economic History Program, 1976).

44. Lane, *Policing the City*, pp. 221-222; Howard M. Gitelman, *Workingmen of Waltham: Mobility in American Urban Industrial Development, 1850-1890* (Baltimore, 1974), pp. 158-159.

45. For example, see David J. Rothman, *The Discovery of the Asylum: Social Order and Disorder in the New Republic* (Boston, 1971); Donald G. Mathews, "The Second Great Awakening as an Organizing Process, 1780-1830: An Hypothesis," *American Quarterly*, 21 (Spring 1969), 23-43; Rosenberg, *Religion and the Rise of the City*, pp. 7-9; and John L. Thomas, "Romantic Reform in America, 1815-1865," *American Quarterly*, 17 (Winter 1965), 656-681.

46. Percy W. Bidwell, "The Agricultural Revolution in New England," *American Historical Review*, 26 (July 1921), 683-702). Also see Clarence H. Danhof, *Changes in Agriculture: The Northern United States, 1820-1870* (Cambridge, Mass., 1969).

47. Cited in Bidwell, "Agricultural Revolution," p. 694.

48. An editor estimated in 1834 that only about one in fifty farmers in New York state had the opportunity to read any journal. See Donald B. Marti, "Agrarian Thought and Agricultural Progress: The Endeavor for Agricultural Improvement in New England and New York, 1815-1840," (Unpub. Ph.D. dissert., University of Wisconsin, 1966), p. 264. A more ample estimate, one in eight rural adults in New England and New York in 1840, is found in Sidney L. Jackson, *America's Struggle for Free Schools: Social Tension and Education in New England and New York, 1827-1842* (New York, 1941), p. 113.

49. Jackson, *America's Struggle for Free Schools*, p. 113.

50. There is nothing in our annual aggregate state figures to indicate that any of our three sample years was atypical. See the tables accompanying Chapter III above.

51. James T. Batal, "Robert Frost Tells of His High School Days in Lawrence," Lawrence Telegram, March 28, 1925, p. 14. See also Barbara M. Solomon, "The Growth of the Population in Essex County, 1850-1860," Essex County Historical Collections, 95 (April 1959), p. 85.

52. See the research on rural-urban differences in intelligence in Sweden as described by Schnore in "An Urbanite's Perspective", pp. 140-141; also see Schnaiberg, "Modernization" for the lower educational levels among rural females in Turkey.

53. These means in our grouped categories of towns are the averages of the town averages (not the mean of all the individuals in towns of this category). The study is ecological; it aims to analyze the demographic context of educational development.

54. For useful introductions to multiple regression analysis, see N. R. Draper and H. Smith, Applied Regression Analysis (New York, 1966); William L. Hays, Statistics (New York, 1963), pp. 490-577; Fred N. Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research (New York, 1973); and Hubert M. Blalock, Jr., Social Statistics (New York, 1960), pp. 326-358.

55. Multiple regression analysis assumes that the independent variables are not highly correlated amongst themselves. For handling this problem, see J. Johnston, Econometric Methods, 2nd ed. (New York, 1972), pp. 159-168; Hubert M. Blalock, Jr., "Correlated Independent Variables: The Problem of Multicollinearity," Social Forces, 62 (1963), 233-238.

56. The number of acres of farmland are based on the Massachusetts State Valuation for 1860. The total number of acres of land in each town are also calculated from that valuation. Oliver Warner, Journal and Documents of the Valuation Committee of the Year 1860 (Boston, 1861).

57. The number of merchants in these towns was printed in the summary of the federal census for Massachusetts in 1860. Oliver Warner, Abstract of the Census of Massachusetts, from the Eighth U.S. Census (Boston, 1863), pp. 345-355. Since information on the number of people engaged in manufacturing was not available in the printed sources, it was necessary for us to go to the manuscript federal census of manufacturing for 1860 which is located in the Massachusetts Archive of the State House in Boston. These schedules provided the number of males and females employed in manufacturing establishments producing goods valued at $500 or more.

58. For one such transition in nineteenth-century Massachusetts, see Thomas A. McMullin, Industrialization and Social Change in a Nineteenth-Century Port City: New Bedford, Massachusetts, 1865-1900 (unpub. Ph.D. dissert., University of Wisconsin, 1976). Michael B. Katz's important recent work, *The People of Hamilton, Canada West* (Cambridge, 1976) catches that city at the point of transition.

59. Available from the state valuation of 1860. Warner, *Journal and Documents of the Valuation Committee*.

60. The data for pauper expenditures are derived from Secretary of the Commonwealth, *Abstracts of the Returns Relating to the Poor, and to Indigent Children...in Massachusetts, 1860* (Boston, 1861).

61. For a discussion of the relationship between ethnicity and school attendance in the nineteenth century, see Chapter VIII.

62. Data on the number of church seats in each town were obtained from the manuscript federal census for Massachusetts in 1860, which is located in the Massachusetts Archives at the State House in Boston.

63. See also Lewis C. Solman, "Opportunity Costs and Models of Schooling in the Nineteenth Century," *The Southern Economic Journal* 37 (July, 1970), 66-83.

64. On overcrowded schools, see, for example, Schultz, *Culture Factory*, p. 288.

65. An interesting perspective on the role of religion in pan-Protestant, Victorian culture in America is found in Daniel Walker Howe, "American Victorianism as a Culture," *American Quarterly* 27 (December, 1975), 507-532. See also David B. Tyack, "Onward Christian Soldiers: Religion in the American Common School," in Paul Nash, ed., *History and Education* (New York, 1970). For Horace Mann's battles with orthodox Congregationalists, see Raymond Culver, *Horace Mann and Religion in the Massachusetts Public Schools* (New Haven, 1929).

66. If work discipline is the salient motive, one would expect the association to be stronger for manufacturing towns than commercial towns, and indeed, Field's study, based on multiple regression analysis of data from the Massachusetts censuses of 1855 and 1865, yields such an association, unlike our 1860 regressions (see Field, Educational Reform, Appendix B). The discrepancy is explained by the fact that we used the percentage of the work force engaged in manufacturing as our industrialization variable, which Field admits does not have a significant association with length of public school session, while Field

used average size of manufacturing establishment, which he argues is a better measure of the onset of large-scale factory production and the alleged attendant work-discipline problems. This argument has some merit, but the empirical discrepancies do not end there. Using our 1875 data, which has a wealth of information regarding manufacturing activity, we investigated several alternative measures of industrialization and their relationship to educational variables. These included: average size of manufacturing establishment, percent of women in the work force, and even a measure of each town's combined water and steam power. None of these variables displayed stronger associations with educational variables (including length of session) than the proportion of workers in manufacturing, so we reverted to that basic variable, not only because it is widely used by others as a measure of increasing industrialization, but because with our data it displayed associations with educational practice as strong or stronger than other variables. The problem requires further study.

C

CHAPTER V

THE POLITICS OF EDUCATIONAL REFORM IN MID-NINETEENTH-CENTURY MASSACHUSETTS

One of the most controversial and enduring issues among historians of American education is the question of who supported the educational reform efforts of the 1830's and 1840's. A wide variety of answers have already been put forth on this issue. Some have seen the educational revivals of the 1830's and 1840's as the result of a few, dedicated humanitarian leaders such as James G. Carter, Horace Mann, and Henry Barnard, who aroused an otherwise apathetic public to the value of common school education.[1] Others have argued that the educational reforms of the period were due to the demands of the workers who wanted equal educational opportunities for their children.[2] Recent scholarship on antebellum education has stressed the role of capitalists in developing an extensive public school system in order to protect themselves and insure stability in the emerging industrial order.[3] Most of these studies of educational reforms have focused on Massachusetts during the 1830's and 1840's since that state pioneered many of the reforms that were later adopted elsewhere.

Although some efforts have been made to study educational reform at the local level in Massachusetts, most studies have dealt with the activities of Horace Mann and the Massachusetts state Board of Education. There is very little agreement among scholars on the relative importance of various groups in determining the nature of educational development in Massachusetts. Part of this disagreement among educational historians is due to the paucity of information on the controversies surrounding the Board of Education. Scholars have either relied on the writings of the main participants in those debates (especially the works of Horace Mann) or have used some indirect measure of school support for educational reform such as the variation in the length of the public school year among the different communities.[4]

One particular episode that has attracted some scholarly analysis was the effort to abolish the Board of Education by the Massachusetts House of Representatives in March 1840. Several historians have already studied this legislative threat to the Board of Education by analyzing the majority and minority reports of the Committee on Education of the House.[5] However, no one has ever analyzed the actual roll-call vote on this bill--partly because many historians are unaware that the votes on this bill had been recorded and partly due to the difficulty of assembling personal information or even party affiliation for legislators. Although a legislator may have voted to abolish the Board of Education for a variety of reasons, a supporter of Mann's educational reforms would have certainly opposed this bill. Therefore, a roll-call analysis of the votes on the bill to abolish the Board of Education will finally provide us with information on the supporters of Mann's educational reforms among the 519 members of the Massachusetts House.

Although our focus will be on educational reform, this Chapter should also be of interest to political historians of Jacksonian America. Very little effort has been made to study the determinants of voting behavior in state legislatures during the Jacksonian period.[6] Our analysis of educational reforms in Massachusetts will provide information on some of the substantive differences between Whigs and Democrats in that state.

Finally, this chapter should be of general interest to historians of legislative behavior because we introduce some new methods of analyzing voting behavior. Rather than relying on simple descriptive statistics or on the cross-tabulation of the data, we will use multiple classification analysis to analyze the determinants of the vote to abolish the Board of Education. We believe that the use of multiple classification analysis in the study of legislative behavior in the past will assist the historian in developing and testing more complex models of legislative voting behavior.[7]

I. The State Board of Education and Massachusetts Politics

During the 1820's and 1830's the Massachusetts legislature was frequently approached by individuals and groups who sought state assistance in improving the quality of education within the state. For example, James G. Carter petitioned the legislature in 1827 for aid in creating a seminary for training techers. The bill lost by only one vote in the Senate.[8] In 1834 the legislature established a permanent school fund--the income of which was to be used in assisting local school systems.[9] In 1836 George Emerson of the American Institute of Instruction urged the legislature to provide assistance for training school teachers, but no action was taken.[10]

Most of the early proposals to assist education were directed toward specific projects rather than trying to create a state agency to handle educational matters. In his annual message to the legislators in 1837, however, Governor Edward Everett urged that body to create a "board of commissioners of schools."[11] His proposal was endorsed by the Committee on Education which introduced a bill to create a Board of Education. After considerable initial opposition, the bill was enacted into law on April 20, 1837.[12]

The new law provided that the governor and the council should appoint eight members to the Board of Education (the governor and lieutenant governor were members ex officiis). The power of the Board was very limited; it was instructed only to collect information on education and to submit annual reports to the legislature. Horace Mann, a prominent Whig politician who was already active in various reform efforts, was selected as the first Secretary of the Board of Education and remained at that post for the next twelve years.

Mann saw in education a means for improving future generations. As he accepted the job of Secretary of the Board of Education, he noted in his private journal:

> Henceforth, so long as I hold this office, I devote myself to the supremest welfare of mankind upon earth. An inconceivably greater labor is undertaken. With the highest degree of prosperity, results will manifest themselves but slowly. The harvest is far distant from the seed-time. Faith is the only sustainer. I have faith in the improvability of the race--in their accelerating improvability. This effort may do, apparently, but little. But mere beginning in a good cause is never little.[13]

The Board of Education had been suggested by a Whig governor and enacted by a Whig-controlled legislature. Furthermore, most of the leaders in the effort to establish the Board of Education were Unitarians. Nonetheless, the members of the Board of Education were selected to represent the various political, religious, and geographic factions within the state. Several years after the event, Mann defended the Board by stressing the considerations which were used in the selection of members.

> Various considerations should enter, and did enter into the appointment of the Board. I may speak with confidence here, for I had personal knowledge of the facts. All the great parties, into which the State was divided, were to be regarded. Religious views were among the most important. Political considerations could not be overlooked. Indications of public sentiment, in regard to men, whom the people had invested with office for a long course of years, were also worthy of attention. Even local residence, though among the weakest motives, must not be wholly forgotten.[14]

The deliberate effort to protect the Board of Education from outside criticism by including prominent members of various political and religious groups is one of the main reasons why the Board of Education was able to survive when efforts were made to discredit it. When some Trinitarians denounced the Board of Education for advocating Unitarian ideas and practices, the presence of Trinitarians such as Rev. Emerson David and Rev. Thomas Robbins on the Board was effective in deflecting much of this criticism. Similarly, the fact that Robert Rantoul, Jr., one of the leading Democrats in eastern Massachusetts, was on the Board made it easier for Mann to defend himself against the charges that the Board of Education was simply a means of furthering Whig interests. Nevertheless, though the Board of Education represented members of different religious and political orientations, it was dominated by Whigs and Unitarians. Of the first ten members of the Board, nine were Whigs and seven were Unitarians.[15]

After the Board of Education had been established, Horace Mann plunged himself into the effort to improve the public schools throughout the Commonwealth. He criss-crossed the state, examining the conditions in the local schools and trying to arouse an apathetic public to the benefits of common school education in his lectures. He also devoted long hours to gathering statistical information from the schools and including the condensed returns with his now classic expositions on education in his annual reports to the Board of Education.

Despite Mann's continued efforts to avoid any controversies as the Secretary of the Board of Education, some of his proposals, such as the recommendation of particular books for school libraries, provoked strong opposition. Much of the opposition came from Trinitarians such as Frederick Packard, who accused Mann of using the proposed list of books for the school libraries as a means of spreading Unitarian doctrines. Mann was able to counter effectively these accusations by rallying support for the Board among many of the leading Trinitarians within the state. Thus, even though Packard took his case to the newspapers, Mann succeeded in isolating him from his potential followers. Yet the appeals of Packard to the fears of the Orthodox community were not forgotten. As the political situation in Massachusetts shifted against the Whigs, the Board of Education found itself under attack within the legislature in 1840 by a coalition of factions that included those who feared the Unitarian orientation of the Board.[16]

During the late 1830's the Whigs had continued to dominate Massachusetts politics. Governor Edward Everett, one of the founders of the Board of Education, was easily re-elected in 1837 despite the growing strength of the Democrats within the state. But a bill that was passed by the legislature in April 1838 and reluctantly signed by Governor Everett proved to be his undoing.[17] Proponents of temperance reform in Massachusetts campaigned vigorously in the mid-1830's to prohibit the sale of spirituous liquors. Although they failed to outlaw the sale of liquor, they were able to obtain a law that prohibited the sale of liquor in quantities of less than fifteen gallons--a measure designed to prevent the sale of drinks in saloons.[18]

The Whigs were split on the issue of the fifteen-gallon law, but the Democrats accused those who supported the law of discriminating against ordinary citizens while the wealthy could afford to buy as much liquor as they wanted. By remaining silent on the issue during the campaign of 1838, Governor Everett survived the furor and defeated the perennial Democratic candidate, Marcus Morton, by a vote of 51,642 to 41,795.

Rather than publically repudiating the fifteen-gallon law, Governor Everett only recommended a re-examination of that issue in his annual message to the legislature in 1839. The legislature reaffirmed its support of the fifteen-gallon law even though it was becoming increasingly clear that the poorer classes within the state were strongly opposed to it. Largely as the result of the controversy over the fifteen-gallon law, Marcus Morton finally defeated Edward Everett by a single vote out of the more than 102,000 votes cast in the election of 1839. Control of the governor's office changed parties, but the legislature remained under control of the Whigs. Of the 519 members elected to the Massachusetts House of Representatives of 1840, we have been able to identify the party affiliation of 493 members (95.0 percent).[19] Of these, 55.2 percent were Whigs. Since our analysis of the vote to abolish the Board of Education will be focused on the House, we will investigate the characteristics of these legislators in more detail--particularly the differences in personal and constituent characteristics between the Whigs and Democrats.

There was a high turnover of members in the Massachusetts House of Representatives during these years. Of the Whigs, 41.6 percent of the members in the House had no previous legislative experience (see Figure 1). Similarly, 51.4 percent of the Democrats had no previous legislative experience. Furthermore, only about a third of the Whigs and one fifth of the Democrats had two or more years of previous legislative experience.[20]

Generally, the Whigs were slightly older than the Democrats (see Figure 2). While 37.8 percent of the Whigs were over fifty years

FIGURE I

NUMBER OF PREVIOUS YEARS IN GENERAL COURT OF MASSACHUSETTS LEGISLATORS IN 1840

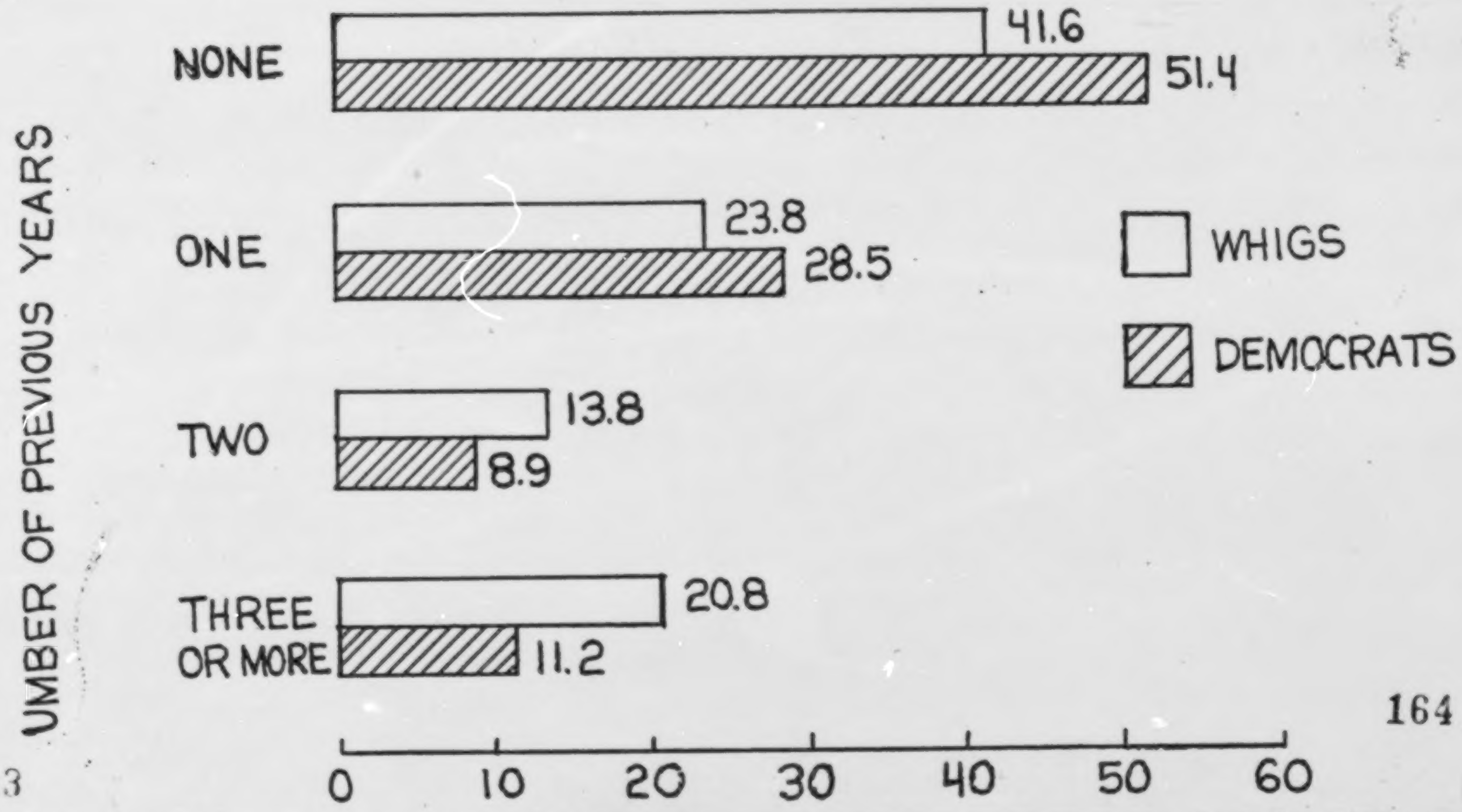
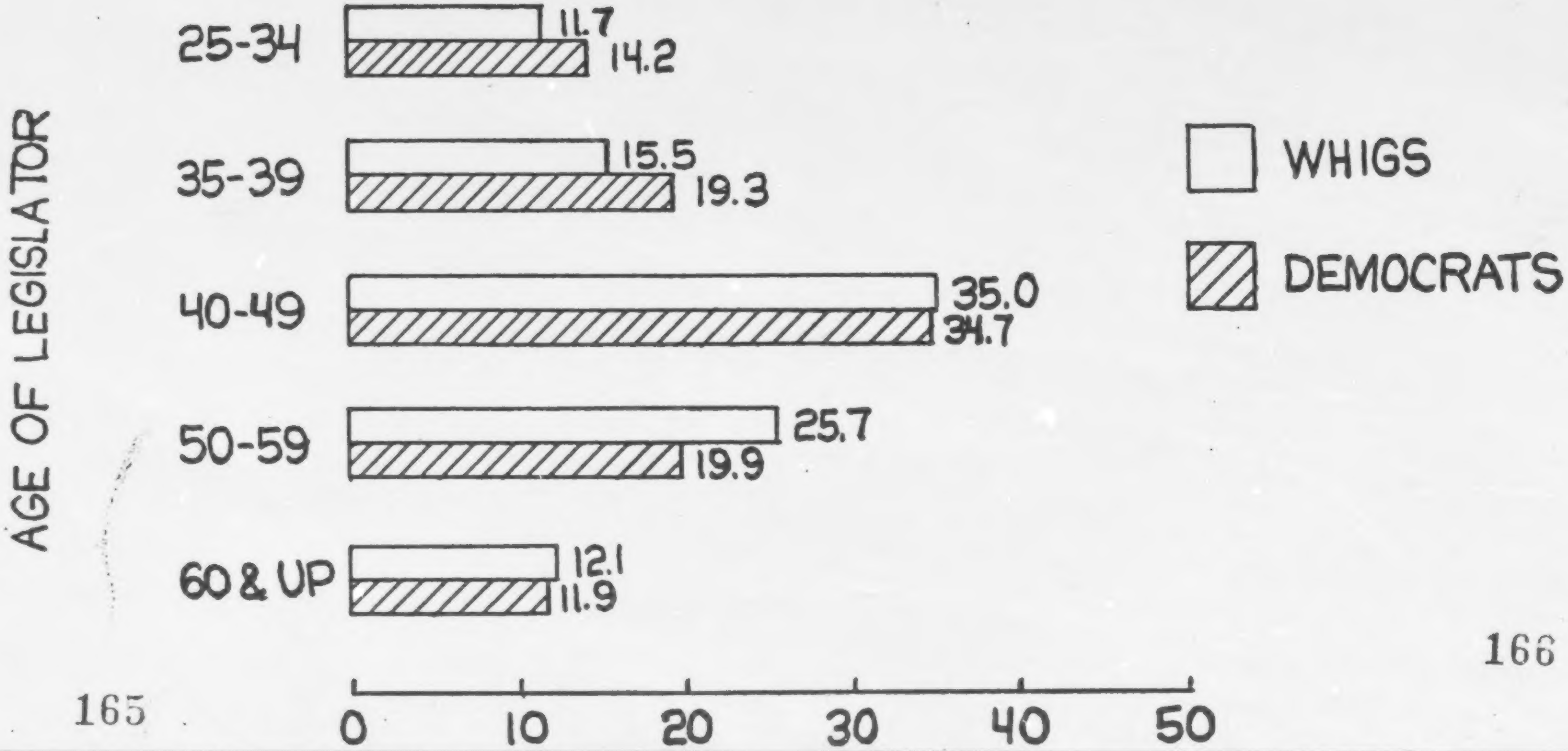


FIGURE 2

DISTRIBUTION OF MASSACHUSETTS LEGISLATORS IN 1840 BY THEIR AGES



old, only 31.8 percent of the Democrats were over fifty years old. Over a third of the Whigs and Democrats were in their forties.

Although there were no major differences between the Whigs and Democrats in terms of their previous legislative experience or their age-distribution, there were significant differences between them in terms of their occupations (see Figure 3).[21] While 49.4 percent of the Democrats were farmers, only 30.6 percent of the Whigs were farmers. On the other hand, while 50.7 percent of the Whigs were professionals, merchants, or manufacturers, only 32.7 percent of the Democrats were in those occupations.

Geographically, the Democrats and the Whigs drew their strength in about the same proportions from the three regions of the state--Central Massachusetts (Essex, Middlesex, and Suffolk Counties), Western Massachusetts (Berkshire, Franklin, Hampden, Hampshire, and Worcester counties), and Southern Massachusetts (Barnstable, Bristol, Dukes, Nantucket, Norfolk, and Plymouth counties).[22] Among the Whig members, 36.0 percent were from Central Massachusetts, 35.3 percent from Western Massachusetts, and 28.7 percent were from Southern Massachusetts. Similarly, among the Democratic members, 33.0 percent were from Central Massachusetts, 37.1 percent were from Western Massachusetts, and 29.9 percent were from Southern Massachusetts.

Although the Whigs and Democrats represented the three regions of the state in about equal proportions, they came from towns of very different population size. Generally, the Whigs came from larger towns than the Democrats (see Figure 4). Thus, while 63.7

percent of the Democrats came from towns of less than 2500 people, only 39.9 percent of the Whigs represented such communities. Conversely, while 39.9 percent of the Whigs were from towns with more than 5000 inhabitants, the comparable figure for Democrats was 20.0 percent.

Finally, in terms of economic development, Democrats were much more likely to represent constituents in the less-developed agricultural regions than their Whig counterparts (see Figure 5). Thus, while 38.8 percent of the Democrats came from towns with low commerce and low manufacturing, only 22.3 percent of the Whigs represented such areas.[23]

II. The Attempt to Abolish the Board of Education in the Massachusetts House in 1840

The Board of Education was not a campaign issue during the 1839 election. There was almost no mention of Horace Mann or the Board of Education during that heated campaign.[24] The attack by Orestes A. Brownson, one of the radical leaders of the Democrats, however, was a significant exception. In a review of the second annual report of the Board of Education, Brownson attacked the Board for trying to Prussianize the Massachusetts schools by advocating increased centralization. Furthermore, he saw the Board as an agency for spreading Whig ideas throughout the Commonwealth. Rather than supporting the State Board of Education, Brownson advocated leaving control of school matters within the local districts.[25]

FIGURE 3

DISTRIBUTION OF MASSACHUSETTS LEGISLATORS IN 1840 BY THEIR OCCUPATIONS

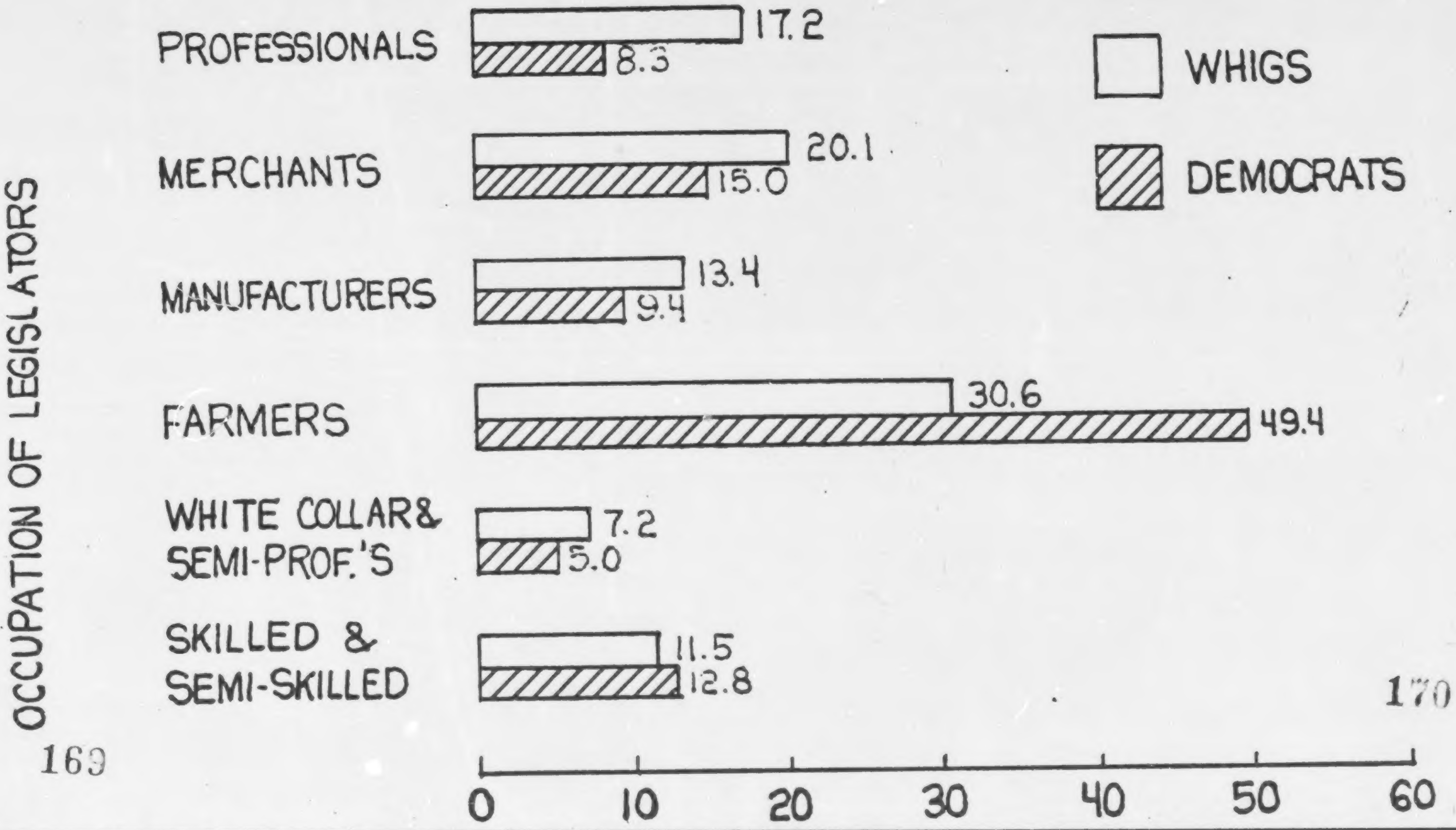


FIGURE 4

DISTRIBUTION OF MASSACHUSETTS LEGISLATORS IN 1840 ACCORDING TO THE POPULATION OF THEIR TOWNS

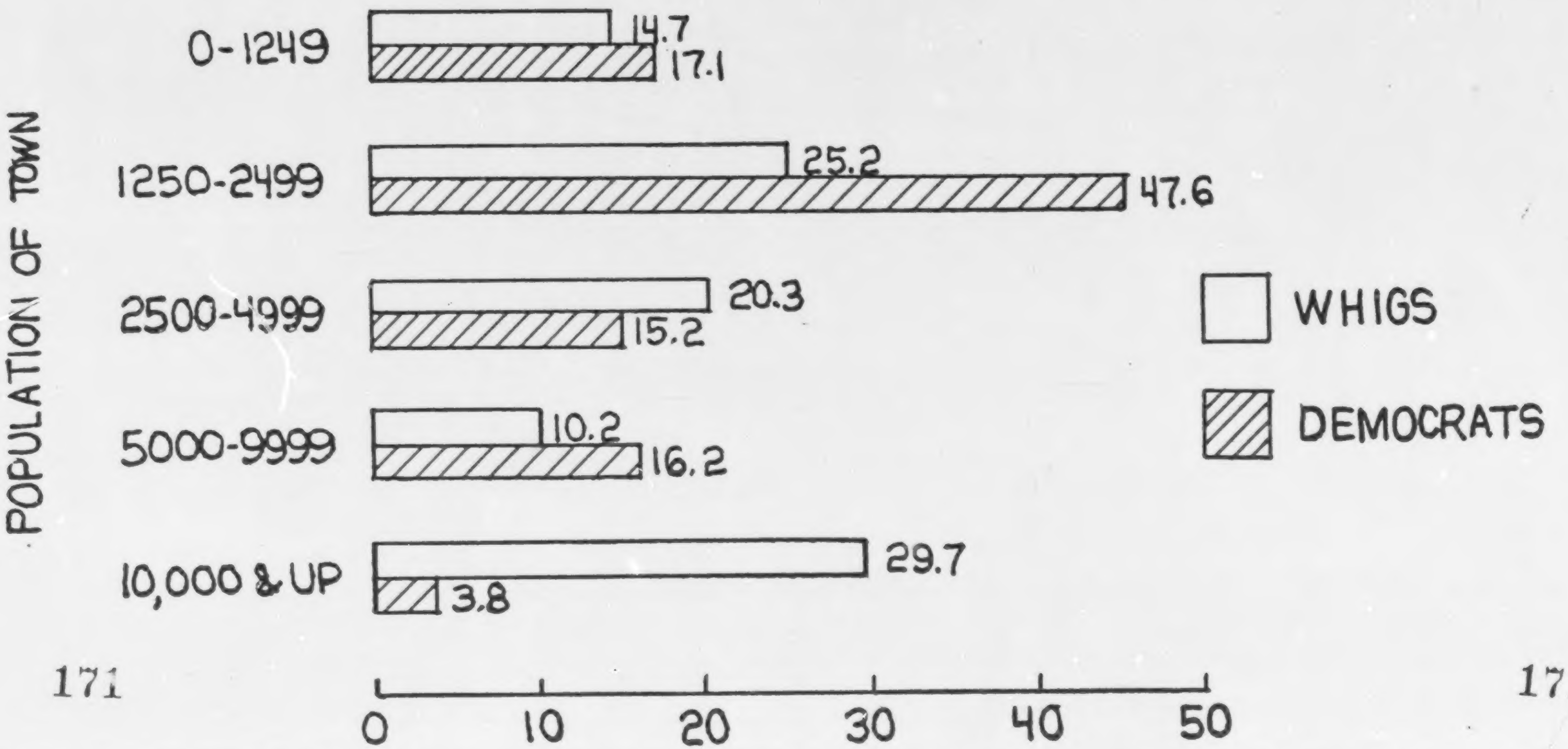
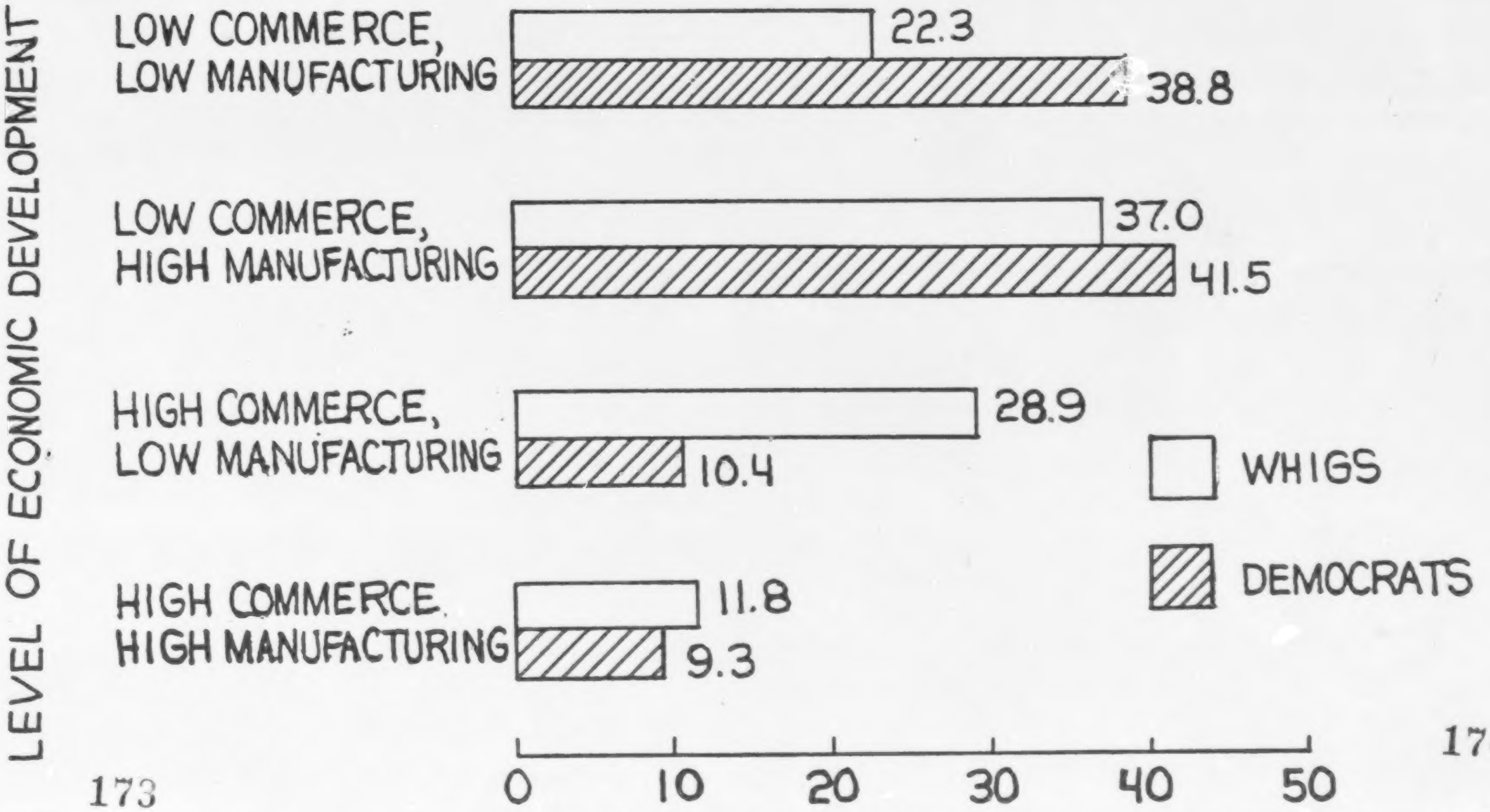


FIGURE 5

DISTRIBUTION OF MASSACHUSETTS LEGISLATORS BY THE ECONOMIC DEVELOPMENT OF THEIR TOWN IN 1840



Horace Mann was worried about Brownson's partisan attack on the Board, but it was an isolated episode. Many other prominent Democratic leaders such as Robert Rantoul, Jr. and George Bancroft supported the idea of the State Board of Education. In fact, when the Democrats met at Boston on October 2, 1839 at their state convention, the committee on resolutions, chaired by Orestes A. Brownson, made no mention of education in their platform.[26] Although the campaign did not really discuss the Board of Education, the election of Marcus Morton as governor of the state caused considerable anxiety among the supporters of the Board of Education. Mann noted in his journal at the start of the new year:

> I enter upon another year not without some gloom and apprehension, for *political madmen* are raising voice and arm against the Board; but I enter with a determination, that, I trust, will prove a match for *secondary* causes. If the First Cause has doomed our overthrow, I give it up; but, if anything short of that, I hold on.[27]

Morton had not committed himself on the issue of the Board of Education during the campaign. His position on education finally was outlined in his address to the legislature. He made no specific references to the Board of Education, but the general thrust of his remarks was directed against the supporters of Horace Mann and the Board; he de-emphasized the value of seminaries for teachers (one of Mann's major efforts) and emphasized the importance of keeping control of schools within the towns.

> In the town and district meetings, those little pure democracies, where our citizens first learn the rudiments and the practical operation of free institutions, may safely and rightly be placed the direction and the government of these

> available seminaries. In my opinion, the main efforts and the most unceasing vigiliance of the government should be directed to the encouragement of the primary schools. These are the fountains whence should flow the knowledge that should enlighten, and the virtue that should preserve, our free institutions. Let them ever be kept free and pure.[28]

Governor Morton's remarks on education in his address to the legislature were only a minor part of his proposed program. The major portion of his legislative message was directed against private banks, special legislation for corporations, state-aid for railroads, and the high cost of state government. Morton's recommendations for a policy of retrenchment in state expenditures was to pose the first substantial threat to the Board of Education in Massachusetts.

Morton's suggestions for the reduction in salaries of state officials and the abolition of some state offices were referred to a special committee of the House on January 31, 1840. The Committee was composed of five members--three Whigs and two Democrats. With the Whigs in control of the Committee, one might have anticipated that the effort to reduce salaries and abolish offices would have been defeated along partisan lines. But Cyrus Alden, a Whig from Sherburne, sided with the two Democrats to produce a majority report that advocated a major retrenchment in expenditures for state officials. The Committee recommended reductions in the salaries of most state officials, including the governor's salary, and the elimination of many commissions such as the Board of Bank Commissioners.[29]

The majority report attacked Horace Mann and the Board of Education as an unnecessary expense and a danger to the political and religious freedoms within the Commonwealth.

> District schools, in a republican government, need no police regulations, no systems of state censorship, no checks of moral, religious, or political conservatism, to preserve either the morals, the religion, or the politics of the state. "Let them ever be kept free and pure." .... Let there be a Board of Education in every school district of the Commonwealth, and let the fathers of the children be that board. Instead of consolidating the education interest of the Commonwealth in one grand central head, and that head the government, let us rather hold on to the good old principles of our ancestors, and diffuse and scatter this interest far and wide, divided and subdivided, not only into towns and districts, but even into families and individuals. The moment this interest is surrendered to the government, and all responsibility is thrown upon civil power, farewell to the usefulness of common schools, the just pride, honor and ornament of New England; farewell to religious liberty, for there would be but one church; farewell to political freedom, for nothing but the name of a republic would survive such a catastrophe.[30]

The Committee recommended that the salary of the Secretary of the Board of Education should be eliminated. They wanted to abolish the Board of Education entirely, but they were unwilling to take that step without first investigating the effects such a move would have on existing school laws in the Commonwealth. Therefore, the Committee suggested that the standing Committee on Education be instructed to consider the expediency of abolishing the Board of Education and transferring any of its essential functions to the governor, council, and secretary of the Commonwealth.[31]

Mann reacted angrily to the efforts to abolish the Board in the name of economy. In a letter to his close friend, George Combe, he attributed the attack on the Board of Education to party politics.

> First came the Governor's Address, which committed that high treason to truth which consists in perverting great principles to selfish ends. Then the cry of expense has been raised; and, were an Englishman to hear it, he would think the Board of Education was trying to outvie the British national debt. But it will end in alienating a portion of the public mind from the cause which it will cost us another year's labor to reclaim.
>
> What an enemy to the human race is a party-man! To get ashore himself is his only object: he cares not who else sinks.[32] . . .

Mann's assumption that the effort behind the bill to reduce salaries and eliminate certain state officials was partisan is borne out by the vote on that bill. The bill lost narrowly in the House by a vote of 222 to 232.[33] The voting was along party lines: 95.2 percent of the Democrats voted in favor of that bill and 92.7 percent of the Whigs voted against it. Despite the strong attacks on the Board of Education by the majority report of the Committee, the final bill on reducing salaries did not include the abolition of the Board; instead, the Board's fate was entrusted to the Committee on Education. But the vote on reducing salaries clearly indicated the dangers that lay ahead for the Board of Education. If the Democrats were able to maintain the same party unity in their effort to abolish the Board of Education as they had in their effort to reduce salaries, the addition of a few Whigs who were already disgruntled with Horace Mann and the Board would be sufficient to abolish the Board of Education.

On March 3, 1840 the House directed its Committee on Education to "consider the expediency of abolishing the Board of Education, and the Normal Schools."[34] The Committee on Education, like the other committees in the legislature, was nominally controlled by the Whigs. Of the seven members of the Committee on Education, four were Whigs and three were Democrats. But on the issue of the Board of Education, the Committee did not split along party lines. Two of the Whigs, Allen W. Dodge of Hamilton and Frederic Emerson of Boston, joined two of the Democrats in producing a majority report which called for the abolition of the Board of Education and the Normal Schools. On the other hand, Abel G. Duncan, a Democrat from Hanover, voted against the bill to abolish the Board even though he did not sign the minority report of the Committee which defended Horace Mann and the Board of Education.

The majority report from the Committee on Education attacked the Board of Education and the Normal Schools as being unnecessary expenses and dangerous precedents for increased state involvement in education. The report emphasized the general fears among Democrats in Jacksonian America that any governmental intervention posed a potential danger to the liberties of the people.[35] Thus, even though the Board of Education

> seems to have only a power of recommending, but it is the opinion of many that this power of recommendation, exercised by such a board, must of necessity be soon converted into a power of regulation; and even if it were not, the vantage ground such a board occupies, must obviously give it, for all practical purposes, an equivalent power.... If, then, the board has any actual power, it is a dangerous power, trenching directly upon the rights and duties of the Legislature; if it has no power, why continue its existence, at an annual expense to the Commonwealth.[36]

The majority report goes on to suggest that many of the activities of the Board of Education, such as gathering data on schools and disseminating information on new teaching methods, could be done by the existing teacher associations within the Commonwealth. Instead of improving the existing system of education, the report charged that the Board was trying to remodel it after the French and Prussian systems which centralized education.

> The establishment of a Board of Education, seems to be the commencement of a system of centralization and of monopoly of power in a few hands, contrary, in every respect, to the true spirit of our democratical institutions, and which, unless speedily checked, may lead to unlooked for and dangerous results.[37]

The report also appealed to the fears of the Orthodox community which felt that the Board of Education was advocating Unitarian doctrines in the selection of books for school libraries. Rather than entrusting the Board of Education to suggest appropriate books for a school library, the report urged that the local school committees should make those selections.

Finally, the report dismissed the newly created Normal Schools for the training of school teachers as an unnecessary expense. The report argued that the existing "Academies and High Schools, cost[ing] the Commonwealth nothing,... are fully adequate... to furnish a competent supply of teachers."[38] In addition, the report interjected a note of anti-professionalism in regard to the training of school teachers.

> Considering that our District Schools are kept, on an average, for only three or four months in the year, it is obviously impossible, and perhaps, it is not desirable, that the business of keeping these schools should become a distinct and separate profession, which the establishment of Normal Schools seems to anticipate.[39]

The minority report of the Committee on Education, produced by John A. Shaw of Bridgewater and Thomas A. Greene of New Bedford in close consultation with Horace Mann, defended the Board of Education and the Normal Schools. The basic assumption underlying the logic of the minority report was fundamentally different from that of the majority report. The authors of the minority report were not afraid of the potential harm that the Board of Education could produce; rather, they were more concerned with the actual operations of the Board--which they argued were clearly beneficial to the Commonwealth.

> The majority of our committee do not specify a single instance, so far as we can recollect, in which the Board of Education have attempted to control, or in any way to interfere with the rights of towns or school districts. They seem to be in great fear of imaginary evils, but are not able to produce a single fact to justify their apprehensions. It is the alleged tendencies of the Board, to which they object. There is a possibility, they think, of its doing wrong, of its usurping powers which would endanger freedom of thought.
>
> If every institution is to be abolished, which it is possible to pervert to some evil purpose, we beg leave to ask, what one would be left? In all human affairs, the possibility to do wrong, goes with the power to do right. Take away the power of doing wrong, and the power of doing right will be destroyed at the same time.[40]

The minority report then pointed out the value of the Board of Education in assisting the associations of school teachers, promoting the construction of new and better school houses, and developing facilities for training teachers. The report closed with a plea for additional time in which to demonstrate the value of this new experiment in education.

> Whatever objection any one might have had to the establishment of the Board and the Normal Schools originally, yet since they have been created and organized, it seems but right that they should have a fair trial. Let the experiment be tried, and not broken off as soon as begun. It has not yet had that trial. A change in public sentiment cannot be effected at once. Any new proposition, however valuable, may meet with opposition at first. If the Board and Normal Schools are abolished now, they cannot be said to have failed. They will have fallen prematurely by the hand which should have sustained them.[41]

The controversy over the Board of Education and the Normal Schools does not appear to have become a major issue among the general public in the Commonwealth. Several petitions supporting the Board of Education and the Normal Schools were submitted, but they represented only a very small fraction of the communities in the state.[42] Most newspapers did not devote very much attention to the effort to abolish the Board. A few, such as the Whig-oriented Boston Daily Advertiser, strongly endorsed the efforts of Horace Mann and the Board.

> We can hardly suppose that there is any real danger, that a majority of the Legislature will be in favor of abolishing this board. If there be any members of the Legislature, who think that the present state of the schools is satisfactory, they must be disposed to content themselves with a very small degree of benefit, from an institution, which is certainly susceptible to being rendered vastly more valuable.[43]

Although Whig newspapers blamed the Democrats for the continued efforts to abolish the Board of Education, they were forced to acknowledge that the leadership in the fight against the Board came from two of the Whigs on the Committee on Education.[44]

The debate in the House on the bill to abolish the Board of Education and the Normal Schools was held on March 18, 1840.[45] Allen W. Dodge, one of the Whigs on the Committee on Education and an Orthodox minister, supported the bill from the floor. Dodge's antagonism toward the Board was due to his conviction that it was an agency for spreading Unitarian ideas; but his attacks on the Board of Education reiterated the broader charges that were contained in the majority report of the Board of Education.[46] Similarly, though Frederick Emerson's personal opposition to the Board stemmed in part from his disappointment in not being named to the Board and from the rejection of his textbook by Mann, his public denunciations of the Board were less self-centered.[47]

Several members took to the floor to defend Horace Mann and the Board of Education during these debates. The defense of the Board was led by John Shaw, one of the co-authors of the minority report of the Committee on Education. Shaw not only defended the Board of Education from its critics, but he also accused the majority members of the Committee on Education of condemning the Board and the Normal Schools without due deliberation.[48]

The vote on the bill to abolish the Board of Education and the Normal Schools was decisive. Whereas the earlier bill which would have reduced the salaries of officials and eliminated certain offices altogether lost by only ten votes, the bill to abolish the Board of Education and the Normal Schools failed by a vote of 182 to 245.[49] This vote saved the Board of Education and the Normal Schools, and it also provides us with detailed information on the supporters and the opponents of a state-regulated public school system among the members of the Massachusetts House in 1840.

III. A Roll-Call Analysis of the Bill to Abolish the Board of Education and the Normal Schools

To analyze this vote we assembled information on the members of the Massachusetts House of Representatives in 1840 from a variety of sources. In order to compare the vote to abolish the Board of Education with other votes during that session, we computerized all of the twenty-four roll-call votes.[50] We then gathered information on the personal characteristics of each member of the House. Using the Tillinghast Manuscript Catalogue of Massachusetts Legislators in the State Library, we were able to ascertain their occupations, age, number of years in the legislature, and their place of birth.[51] The party affiliation of the members was not recorded in any of the state documents. Therefore we relied on three other sources for party affiliation--newspapers, a list of participants to the Whig Convention of 1840, and William Lincoln's list of Whigs and Democrats in the Massachusetts House in 1839.[52] Using these sources, we were able to determine the party affiliation of ninety-five percent of the members. Unfortunately, it is impossible to ascertain the religious affiliation of the legislators.

In addition to collecting data on the personal characteristics of the legislators and the pattern of voting in the House, we also assembled an extensive file on the characteristics of the towns which the legislators represented. As indices of urban development, we used the total population of the town in 1840 as well as the number of farm acres of land per capita (a crude measure of population density).[53] The overall wealth of each town was approximated by the per capita valuation of that community. We calculated the per capita valuation of manufactured products and of commercial ventures as well as the percentage of workers engaged in manufacturing and commerce as indices of the economic development of the legislators' communities.[54] The percentage of votes received by each party in the gubernatorial races for 1839, 1840, and 1841 and the presidential contest for 1840 were used to indicate the relative party strength within the towns.[55] The religious orientation of the towns was approximated by information on the number of churches within those communities.[56] We also collected data on whether a Bible was used in the local school systems between 1837 and 1841 and whether any ministers served as members of the local school committee during 1839-1841.[57] Finally, in an effort to measure the educational efforts within the towns, we estimated the percent of persons under twenty enrolled in public schools, the percent of persons under twenty in public or private schools, the average number of days the public schools were kept open, the average amount of money spent per public school student, the per capita public school expenditures, and the number of days in school per person under twenty.[58]

Overall, we assembled over one hundred variables for each of the 519 members of the Massachusetts House in 1840. Since many of the variables were nearly identical measures and in view of the fact that the statistical procedures we employed assumed relative independence among the variables, the number of variables used in our final analysis was considerably reduced.

A. The Use of Multiple Classification Analysis

Because many of the readers of this chapter may not be familiar with multiple classification analysis, we provide here a brief introduction to this technique in order to facilitate a better comprehension of our results. Multiple classification analysis (MCA) is a form of multiple regression analysis with dummy variables which expresses results in terms of adjusted deviations from the grand mean of the dependent variable associated with the various classes of the predictor variables.[59] For example, MCA answers the question: how much of the opposition to the Board of Education was associated with being a manufacturer, while controlling for such other variables as the age of the legislator, his party affiliation, and the size of the town that he represents? Similarly, it provides an approximate answer to the question: ceteris paribus, what is the effect on opposition to the Board of Education of the economic development of the town which the legislator represents? MCA "controls" for other variables by assuming while it looks at one class of a predictor variable that the distribution of all other predictor variables will be the same in that class as in the total population, thus "holding constant" their effects. Although traditional multiple regression programs also do this, MCA has three advantages: it does not require variables to be interval variables, it does not require or assume linearity and thus can capture discontinuities in the direction of association and, finally, it is useful descriptively because it presents the reader with the gross effects of a predictor class, that is, the actual mean of each class, as well as the mean after adjusting for the influence of other variables.

Although MCA does not assume linearity, it does, like other forms of regression analysis, assume that the effects of the various predictors are additive, that is, independent of one another. In fact, of course, for most variables this is not true. In our study, for example, the number of years in the legislature is not strongly correlated with town size, but the per capita valuation and the town size are highly correlated--especially for the larger towns. The problem of the interaction effects of the variables, however, can be ascertained both conceptually and empirically and then corrected, if necessary, by creating a new variable that combines those two variables.[60]

The statistics generated by MCA analysis provide information to answer a variety of different, but related issues. If one asks how "important" an independent variable (X) is in determining the variation in a dependent variable (Y), the question can mean several things. Most studies that have used MCA have dealt primarily or exclusively on the magnitude and direction of the adjusted means within the classes of a given predictor variable X; that is, they have emphasized the question: how much of the difference in Y is attributable to membership in a particular class of X? The statistics that are the most useful in analyzing this issue are the class mean, the adjusted mean, and the net deviation of the independent variables. The class mean (often called the gross mean) is simply the value of the dependent variable for that class or category of that independent variable. The adjusted mean indicates what the mean would have been for that class or category if that group had been exactly like the total population with respect to its distribution over all the other predictor classifications. And the net deviation of a class or category of a predictor variable is simply the adjusted mean minus the grand mean of the dependent variable.

Another question, however, is: how "important" is the whole predictor variable X_1 compared to predictor variable X_2 or X_n in explaining variation in dependent variable Y? Here we ask, not how much higher is the opposition to the Board of Education among legislators who are farmers rather than manufacturers, when controlling for other variables, but rather, how much of the variation in the opposition to the Board of Education is explained by the occupation of the legislator, in comparison with the amount of variation explained by the age of the legislator? To attempt to answer this question we must turn to the predictor summary statistics which provide expressions of each predictor's unadjusted and adjusted contribution to explaining the variance in the dependent variable. The eta^2 statistics are an unadjusted measure of variance explained; that is, they express the zero-order relationship between the predictor variable and the dependent variable. They are thus analogous to the square of Pearson correlation coefficients for interval variables. Our adjusted measure is β, the partial beta coefficients. The rank order of these betas indicates the relative importance of each variable in explaining variance in the dependent variable while controlling for all other included variables. However, beta-squared does not express percent of variance explained.

Finally, we may want to know how much of the total variance of the dependent variable can be accounted for by our whole series of predictor variables. To measure this we use adjusted R^2 which indicates the proportion of the variance of the dependent variable explained by all the predictor variables together after adjusting for the number of cases, categories, and predictors (i.e. adjusting for the degrees of freedom) that have been used in the analysis.

In order to present the reader with adequate statistical information on our MCA analyses, we will present two tables for each of our major runs. The first table will contain the eta^2s and beta coefficients for each of the predictor variables as well as the overall adjusted R^2. The second table will present the class means, the adjusted means, the net deviations, and the number of cases for each class or category of each of the predictor variables as well as the grand mean and the total number of cases for that particular MCA.

B. The Vote to Abolish the Board of Education in the Massachusetts House of Representatives in 1840

In our analysis of the bill to abolish the Board of Education and the Normal Schools, the dependent variable is the vote on that bill (1=vote for abolition of the Board and the Normal Schools/0=vote against the abolition of the Board and the Normal Schools) of the 427 members of the House who recorded their votes on this issue. Though a variety of different combinations of independent variables were used in this analysis, our basic list consisted of eight variables: the occupation of the legislator, the age of the legislator, the number of years in the legislature before 1840, the party affiliation, the commercial/manufacturing index of the town, the population/wealth index of the town, whether there is a Unitarian church in the town, and the geographic location of the legislator's district. The results of our multiple classification analysis using this basic list of eight independent variables are presented in Table No. 1 and Table No. 2.

We expected that the occupation of the legislator might be an important determinant of his vote on the bill. Several scholars have recently argued that the major support for the educational reforms of Horace Mann came from the manufacturers, who saw in education a means of socializing children into accepting the discipline necessary for preserving the new industrial order. These manufacturers were joined by other capitalists, such as the merchants, who harbored the same fears of social disorganization as the manufacturers.[61] Older educational historians, on the other hand, have focused on the strong opposition to the Board of Education among the rural segments of the population. Therefore, we anticipated that the farmers would be firmly opposed to the Board of Education.[62]

Our information on the occupation of the legislators is imperfect since it is not always clear that the occupation listed for the legislator in the Tillinghast Manuscript Catalogue of Massachusetts Legislators is the one they had when they served in the House in 1840. This is further complicated by the fact that individuals in nineteenth-century America often shifted from one occupation to another or held more than one occupation at the same time. Finally, even when we have an occupation listed for a legislator such as "shoe manufacturer,"

Table No. 1

Vote to Abolish the State Board of Education in the Massachusetts House of Representatives in 1840: Class Means, Adjusted Means, and Net Deviations

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Occupation of Legislator:				
Professional	23.5	37.2	- 5.4	51
Merchant	37.6	45.0	+ 2.4	74
Manufacturer	26.1	32.7	- 9.9	46
Farmer	59.5	47.4	+ 4.8	158
White Collar and Semi-Professional	36.0	45.7	+ 3.1	25
Skilled and Unskilled	36.0	39.6	- 3.0	50
Not Ascertained	39.1	37.5	- 5.1	23
Age of Legislator:				
25-34	35.3	40.1	- 2.5	51
35-39	36.2	35.0	- 7.6	69
40-49	43.5	40.1	- 2.5	138
50-59	44.1	47.8	+ 5.2	93
60 and Above	55.3	56.2	+13.6	47
Not Ascertained	41.4	38.7	- 3.9	29
Number of Years in Legislature Before 1840:				
None	45.2	43.3	+ .7	197
One Year	47.8	46.5	+ 3.9	113
Two Years	35.0	39.8	- 2.8	40
Three or More Years	30.9	36.5	- 6.1	68
Not Ascertained	44.4	37.3	- 5.3	9

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Party Affiliation:				
Whig from Non-Competitive District	15.6	17.2	-25.4	147
Whig from Competitive District	21.9	22.9	-19.7	64
Democrat from Competitive District	54.7	54.6	+12.0	64
Democrat from Non-Competitive District	73.9	72.8	+30.2	119
Not Ascertained	66.7	62.1	+19.5	33
Commercial/Manufacturing Index of Town:				
Low Commerce, Low Manufacturing	70.2	57.4	+14.8	124
Low Commerce, High Manufacturing	38.5	40.2	- 2.4	161
High Commerce, Low Manufacturing	20.2	40.8	- 1.3	84
High Commerce, High Manufacturing	11.9	19.4	-23.2	42
Not Ascertained	68.8	23.2	-19.4	16
Population/Wealth Index of Town:				
Population 0-2499, Low Valuation	53.6	42.1	- .5	110
Population 0-2499, High Valuation	59.4	37.9	- 4.7	106
Population 2500-9999, Low Valuation	34.5	41.6	- 1.0	55
Population 2500-9999, High Valuation	30.1	44.1	+ 1.5	73
Population 10,000 & Above, High Valuation	11.9	44.1	+ 1.5	67
Not Ascertained	68.8	68.7	+26.1	16

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Unitarian Church in Town:				
Yes	32.0	43.2	+ .6	225
No	54.5	42.0	- .6	202
Geographic Location Within State:				
Central	33.3	40.8	- 1.8	150
Western	61.8	55.1	+12.5	152
Southern	30.4	29.6	-13.0	125
Total	42.6			427

Table No. 2

Vote to Abolish the State Board of Education in the Massachusetts House of Representatives in 1840: Eta^{2}s, Betas, and R^2

	Eta^2	Beta
Occupation of Legislator	.0648	.1046
Age of Legislator	.0012	.1273
Number of Years in Legislature Before 1840	.0060	.0687
Party Affiliation	.2609	.4897
Commercial/Manufacturing Index of Town	.1736	.2336
Population/Wealth Index of Town	.1163	.1146
Unitarian Church in Town	.0492	.0118
Geographic Location Within State	.0797	.2085

$R^2 = .3788$

Note: The eta^{2}s and R^2 have been adjusted for degrees of freedom

it is not clear whether that individual was a worker in a shoe factory, the owner of a small shoe factory, or the proprietor of a large-scale shoe manufacturing operation.[63] Nonetheless, though the occupational categories in our analysis are not ideal, they probably are reasonable approximations of the type and level of work in which legislators were engaged, especially since our seven categories are quite broad (professionals, merchants, manufacturers, farmers, white collar workers and semi-professionals, skilled workers, and unskilled workers).[64]

The votes on the bill to abolish the Board of Education and the Normal Schools by the occupation of the legislator seems to fit many of the earlier hypotheses. The only group that strongly opposed the Board were the farmers--59.5 percent of them voted to abolish the Board and the Normal Schools. The professionals and the manufacturers were particularly supportive of Horace Mann and the Board since three-quarters of them refused to abolish the Board and the Normal Schools. These patterns hold even after we control for the effects of the other variables in the MCA analysis (see the adjusted means and net deviations in Table No. 1).

The votes on the bill by the occupation of the legislator, however, does present a more complex picture than portrayed by previous analysts. For example, though the general pattern of voting by occupation is consistent with many of the earlier hypotheses, it is important to remember that nearly one-quarter of the manufacturers opposed the Board of Education while forty percent of the farmers supported the Board. In other words, there was considerable variation within each of the occupational categories in their reaction to the Board of

Education--even after controlling for the effects of the other factors. As a result, the occupation of the legislator by itself can only account for 6.5 percent of the variation in the vote on that bill (see the eta^2 in Table No. 2) and is only moderately important as a predictor compared to other factors such as party affiliation (see the betas in Table No. 2). Furthermore, it is instructive to remember that the professionals, merchants, and manufacturers together only provided 48.6 percent of the votes against abolishing the Board of Education and the Normal Schools. In short, although the occupation of the legislator did affect his vote, it was only one factor among several others in predicting his response to Horace Mann and the Board of Education.

We included the age of the legislator in 1840 as another independent variable. We suspected that the younger members would be more apt to support the Board of Education and the Normal Schools than the older ones because they had been brought up in the Commonwealth at a time when there were increasing efforts made to have the state foster and regulate educational reforms. The older members, on the other hand, were the product of late eighteenth and early nineteenth century attitudes toward education which minimized the role of the state in education at the local level. Nonetheless, we did not expect that the age of the legislator would be a very powerful predictor of his position on the educational reforms of Horace Mann.

The results of the MCA analysis supports the notion that younger legislators were stronger supporters of the Board of Education. Particularly intriguing is the strong hostility among those sixty and above toward the Board and the Normal Schools--even after controlling for the effects of other factors. Yet in general the age of the legislator was not a strong predictor of the way in which he voted on this bill--either by itself or when taking into consideration the other variables.

We hypothesized that the newly elected members of the House might have been more hostile to the Board of Education than the legislative veterans since the latter may have been among those who initially created the Board and who would have been more exposed to the skillful lobbying efforts of Horace Mann in the previous legislative sessions. The MCA analysis again generally supports such an interpretation--except that those legislators who had one year of previous experience were actually more hostile to the Board of Education than those who were newly elected. In any case, the number of years of legislative experience before 1840 was not a very important predictor of voting behavior on this bill when compared to other factors.

We anticipated that the party affiliation of the legislator would be a major factor since many contemporaries commented on the partisan nature of the attacks on the Board of Education and the Normal Schools. Most historians, however, have de-emphasized the importance of party in this controversy--largely because the fight against the Board was led by two Whig members of the Committee on Education.[65] We wanted to go beyond party affiliation test whether legislators from closely contested areas voted differently than those from non-competitive districts, so we subdivided party affiliation by whether the legislator came from a competitive or non-competitive district.[66]

The results of the MCA analysis indicate that party affiliation is the single, best predictor of the vote on the Board of Education.

By itself, the party affiliation of a legislator explains 26.1 percent of the variation in the vote. When we control for other factors, party affiliation is by far the most important predictor. Whig legislators from non-competitive districts were more supportive of the Board of Education than those from competitive areas. The reverse was true for Democrats. Democrats from non-competitive districts were more hostile to the Board than those from competitive districts. In other words, Whigs tended to support the Board of Education while Democrats opposed it. However, if either a Whig or Democratic legislator came from a competitive district, he was more likely to shift his vote toward the other party's position than his counterpart from a safe district.

To provide a measure of the economic development of the legislator's district, we subdivided the towns into four categories: low commerce, low manufacturing; low commerce, high manufacturing; high manufacturing, low commerce; and high commerce, high manufacturing.[67] Horace Mann frequently complained of the hostility to his educational efforts in the rural and agricultural communities of the Commonwealth. Therefore, we hypothesized that representatives from the less-developed areas (low commerce, low manufacturing) would be more hostile to the Board of Education than representatives from the highly developed communities (high commerce, high manufacturing).

The extent of commercial and manufacturing development of a town was an important predictor of the way its representative voted on the bill to abolish the Board of Education and the Normal Schools. While 70.2 percent of the representatives from towns which had few workers engaged in either commerce or manufacturing voted to abolish the Board, only 11.9 percent of those from the highly developed communities opposed the Board. Even after controlling for the other factors, the economic development of the town was still the second most important predictor of the way in which a legislator voted on this issue.

The recent emphasis on the role of manufacturing interests in supporting the Board of Education should be modified in light of our analysis. It was not the extent of manufacturing per se that determined the vote on the Board, but the overall economic development of the town. Thus, the strongest support for the Board of Education came from areas that had a large percentage of its workers engaged in both commerce and manufacturing. In fact, legislators from areas which had a high proportion of its workers in commerce but not in manufacturing supported the Board more than those who represented communities with a low percentage of workers in commerce but a high percentage in manufacturing (however, after controlling for other factors, the representatives from these two types of towns supported the Board in about equal proportions).[68]

Another perspective on the importance of the town of the representative is provided by our index of the population size and the per capita wealth of the community. We expected that legislators from small towns would be more hostile to the Board than those from large towns and that the representatives from the more affluent towns would support the Board more than those from the less wealthy areas.

In fact, representatives from the smaller communities were more likely to oppose the Board of Education and the Normal Schools than those from the larger towns. After controlling for the effects of the other variables, however, representatives from the smaller towns were actually less opposed to the Board than those from the cities of 10,000 or more inhabitants. In other words, representatives from the small communities were more opposed to the Board, but not because of their population size per se; rather, small communities were less-developed economically and tended to send more farmers and Democrats to the legislature than other areas.[69]

The per capita wealth of the community did not have a consistent effect on the voting pattern of its representatives on this bill. In towns of less than 2500 inhabitants, representatives from low per capita valuation areas tended to oppose the Board of Education more than those from high per capita valuation communities after we controlled for the effects of the other variables. However, the reverse was true for towns with populations between 2400 and 9999 inhabitants. In these communities, representatives from areas with a low per capita valuation were less likely to oppose the Board than those from towns with high per capita valuations after we controlled for the effects of the other factors.

We wanted to include some measures of the religious orientation of the legislator and his constituents, but it was impossible to find data on the religion of the legislator. Instead, we had to settle for information on the different type of churches within the towns. We used the presence or absence of a Unitarian Church in the town as one of our independent variables. We hypothesized that representatives from communities which had Unitarian congregations would be more likely to support the educational reforms of Horace Mann since the Board of Education was dominated by Unitarians and because it espoused policies that were quite compatible with Unitarian doctrines.

As expected, representatives from communities with a Unitarian Church were more likely to vote against the bill to abolish the Board of Education and the Normal Schools. However, that difference disappears almost entirely when we controlled for the effects of the other variables. While our analysis does not suggest a strong religious determinant of the pattern of voting on the bill, this does not necessarily imply that religion was not an important factor in this controversy since our measures of religion are so crude. Especially lacking is information on the religion of the representatives. Nonetheless, though the religious question certainly motivated some leaders of the anti-Board movement such as Allen Dodge, it appears that Horace Mann had successfully defused the religious issue within the legislature. Party affiliation rather than religious affiliation seems to be the key to the vote on the effort to abolish the Board of Education and the Normal Schools.[70]

Finally, we examined the geographic pattern of voting on the bill to abolish the Board of Education and the Normal Schools. The state was subdivided into three regions--Central Massachusetts, Western Massachusetts, and Southern Massachusetts.[71] The MCA analysis showed large regional variations. While 61.8 percent of representatives from Western Massachusetts opposed the Board of Education, only 30.4 percent of the legislators from Southern Massachusetts voted against the Board. This general pattern remained the same even after we controlled for the other variables and the geographic location of the legislator became the third best predictor of the vote on the bill to abolish the Board of Education and the Normal Schools.

The geographic pattern of voting is compatible with our general knowledge of Massachusetts political and educational development. The greatest antagonism to the efforts of the Board of Education came from Western Massachusetts where educational reforms were not as highly valued and state intervention was most strenuously resisted. Thus, the strongest opposition to the Board came from Berkshire, Franklin, and Hampden counties[72] Southern Massachusetts, on the other hand, was an area which strongly supported the efforts of Horace Mann. The support for the Normal Schools was particularly strong in Southern Massachusetts--especially in Plymouth county in which one of the three Normal Schools was located.[73] Central Massachusetts was split in its support of the Board of Education. Whereas 59.3 percent of the representatives from Middlesex county opposed the Board of Education, only 26.4 percent of those from Essex county and 9.3 percent of those from Suffolk county favored abolition of the Board of Education and the Normal Schools.

Altogether, eight independent variables were used in this MCA analysis. The strongest predictor of the vote on the bill to abolish the Board of Education and the Normal Schools was the party affiliation of the legislator. The degree of commercial and manufacturing development of the representative's town and its geographic location within the state were the next two best predictors. The presence of a Unitarian Church in that town and the number of years the representative was in the legislature before 1840 were the two weakest predictors. Overall, these eight independent variables are able to explain 37.9 percent of the variation on the vote to abolish the Board of Education and the Normal Schools.

We ran several other MCA's using the basic list of eight independent variables as well as some additional factors. For example, we wanted to know whether representatives from towns whose schools were more religious were more hostile to the Board of Education since Horace Mann had often been accused of trying to secularize the schools. Therefore, we ran two new MCA's. In the first one, we added a variable on whether one or more of the school committee members were clergymen. Our assumption was that towns whose schools used Bibles as textbooks or included clergymen on their school boards were more inclined to stress the importance of religion in their schools than those communities whose schools did not use Bibles or whose school committees did not include clergymen.[74]

The results of these additional MCA runs surprised us. Looking at either the unadjusted or the adjusted class means, representatives from towns whose schools used Bibles or whose school committees had members of the clergy on them were less hostile to the Board of Education than those legislators from communities whose schools did not use Bibles or did not have ministers on their school boards.[75]

These MCA runs reinforce our previous finding that hostility to the Board of Education in the legislature was more associated with political rather than religious considerations.

We ran several MCA's using the basic list of eight independent variables and adding various measures of the educational efforts within the representatives' towns. Thus, we included variables on the per capita public school expenditures, the average number of days in public school per person under twenty, and the average length of the public school year. The results generally indicated that representatives from towns which spent less money and/or provided less educational opportunities for its children were more likely to have voted to abolish the Board of Education and the Normal Schools, which is not surprising.[76] These measures of educational efforts at the local level were only moderately important as predictors of the vote to abolish the Board of Education and the Normal Schools.[77]

C. The Vote to Abolish the Board of Education Among Whigs and Democrats in the Massachusetts House of Representatives in 1840

Our analysis of the vote on the bill to abolish the Board of Education and the Normal Schools indicated the Central importance of party affiliation in predicting how representatives voted on this issue. While 67.2 percent of the Democrats favored the bill, only 18.9 percent of the Whigs supported it. Therefore, another useful perspective on this issue is to examine the characteristics of those Whigs and Democrats who deviated from their expected party position on this bill.

We ran separate MCA's for the Whigs and Democrats using the vote on the bill to abolish the Board of Education and the Normal Schools as the dependent variable and our basic roster of eight independent variables. We made some minor adjustments in the classes of our independent variables to take into consideration the new distribution of cases. Since party affiliation was no longer a variable when examining Whigs and Democrats separately, we substituted the competitiveness of the district for the party affiliation variable. The results of the MCA analysis for Whig members are presented in Table No. 3 and Table No. 4.

The Whigs voted more along party lines than the Democrats on this bill with 81.1 percent of the Whigs opposing it.[78] In terms of the occupation of the legislator, the Whig farmers were the group most opposed to the Board of Education while Whig merchants and manufacturers were the most supportive of the Board. Generally, older Whigs were more opposed to the Board than younger ones. The Whigs who had served just one year in the legislature before 1840 were more opposed to the Board of Education than those who had been newly elected or who had two or more years of legislative experience.

In terms of their constituents, Whigs from competitive districts were more hostile to the Board of Education than those from safe districts. Of the Whig representatives from towns with a low proportion of workers in either commerce or manufacturing, 38.3 percent of them voted against the Board. Similarly, nearly one-third of the Whigs from towns under 2500 inhabitants voted against the Board of Education and the Normal Schools. The presence or absence of a

Unitarian Church in the town did not make much difference after we controlled for the effects of the other variables, but the geographic location of the legislator's district was very important. Of the Whigs from Western Massachusetts, 37.2 percent of them opposed the Board.

Overall, the strongest predictors of the pattern of voting among the Whigs were the population/wealth index of the town, the commercial/manufacturing index of the town, and its geographic location within the state. In other words, Whig legislators from the rural and agricultural parts of the state, especially those from Western Massachusetts, were more hostile to the Board of Education and the Normal Schools than their colleagues from the more urban and developed communities. If the Democrats had been able to maintain the same party unity on the bill to abolish the Board of Education and the Normal Schools as they had on the salary bill, they would have gained enough support from the Whig representatives from the rural and agricultural areas to defeat the educational reform efforts of Horace Mann.

The survival of the Board of Education is in large measure due to the unwillingness of the Democrats to unite against the Board. The leaders of the fight against the Board of Education and the Normal Schools tried to rally the Democrats against these institutions by evoking Governor Morton's pleas for maintaining the control of the schools within the local communities and for eliminating any unnecessary state expenses.[79] Yet nearly a third of the Democrats voted against the bill to abolish the Board and the Normal Schools--even though most

Table No. 3

Vote to Abolish the State Board of Education Among the Whigs in the Massachusetts House of Representatives in 1840: Class Means, Adjusted Means, and Net Deviations

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Occupation of Legislator:				
Professional	13.9	19.0	+ .1	36
Merchant	9.5	15.3	- 3.6	42
Manufacturer	14.3	14.1	- 4.8	28
Farmer	34.4	22.6	+ 3.7	64
Other	15.4	19.7	+ .8	39
Not Ascertained	0	20.7	+ 1.8	8
Age of Legislator:				
25-34	8.3	13.1	- 5.8	24
35-39	18.8	23.2	+ 4.3	32
40-49	19.4	15.4	- 3.5	72
50-59	24.5	24.4	+ 5.5	53
60 and Above	24.0	24.0	+ 5.1	25
Not Ascertained	0	3.9	-15.0	11
Number of Years in Legislature Before 1840:				
None	18.2	17.5	- 1.4	88
One Year	27.3	25.5	+ 6.6	55
Two Years	11.5	11.0	- 7.9	26
Three or More Years	15.2	18.8	- .1	46
Not Ascertained	0	2.4	-16.5	2

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Competitiveness of District:				
Competitive	21.9	23.5	+ 4.6	64
Non-Competitive	15.6	18.5	- .4	147
Not Ascertained	66.7	-19.4	-38.3	6
Commercial/Manufacturing Index of Town:				
Low Commerce, Low Manufacturing	38.3	19.2	+ .3	47
Low Commerce, High Manufacturing	16.7	14.1	- 4.8	78
High Commerce, Low Manufacturing	9.8	22.4	+ 3.5	61
High Commerce, High Manufacturing	0	13.0	- 5.9	25
Not Ascertained	66.7	66.7	+47.8	6
Population/Wealth Index of Town:				
Population 0-2499, Low Valuation	29.8	26.8	+ 7.9	47
Population 0-2499, High Valuation	38.5	26.4	+ 7.5	39
Population 2500-9999, Low Valuation	4.8	15.0	- 3.9	21
Population 2500-9999, High Valuation	6.8	13.0	- 5.9	44
Population 10,000 & Above, High Valuation	6.7	8.7	-10.2	60
Not Ascertained	66.7	66.7	+47.8	6

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Unitarian Church in Town:				
Yes	10.0	19.5	+ .6	130
No	32.2	18.0	- .9	87
Geographic Location Within State:				
Central	8.8	18.9	0.	80
Western	37.2	30.5	+11.6	78
Southern	8.5	3.6	-15.3	59
Total	18.9			217

Table No. 4

Vote to Abolish the State Board of Education Among Whigs in the Massachusetts House of Representatives in 1840: Eta^{2}s, Betas, and R^2

	Eta^2	Beta
Occupation of Legislator	.0498	.0792
Age of Legislator	.0039	.1453
Number of Years in Legislature Before 1840	.0015	.1194
Competitiveness of District	.0387	.1750
Commercial/Manufacturing Index of Town	.1212	.2267
Population/Wealth Index of Town	.1419	.2842
Unitarian Church in Town	.0728	.0177
Geographic Location Within State	.1142	.2711

$R^2 = .1364$

Note: The eta^{2}s and R^2 have been adjusted for degrees of freedom

of them had supported their party's earlier effort to reduce the salaries of state officials and to eliminate unnecessary state offices (see Tables 5 and 6).[60]

The occupation of the legislator was a much better predictor of his vote on this bill among Democrats than among Whigs. Whereas the occupation of the legislator by itself could account for 24.3 percent of the variation on the vote for Democrats, the comparable figure for Whigs was only 5.0 percent. Democrats who were professionals or manufacturers were less hostile to the Board than Democrats who were merchants or farmers. It is interesting to note that merchants among the Whigs were particularly supportive of the Board while merchants among the Democrats were particularly hostile to the Board. Furthermore, while manufacturers were more likely to support the Board of Education among both the Democrats and the Whigs, there were still significant differences between the two parties. Thus, 47.1 percent of the Democrats who were manufacturers opposed the Board of Education, but only 14.3 percent of the Whigs who were manufacturers voted to abolish the Board. Similarly, 75.3 percent of the Democrats who were farmers voted to abolish the Board, whereas only 34.4 percent of the Whigs who were farmers opposed the Board of Education and the Normal Schools.

Older Democrats were particularly hostile to the Board of Education. About sixty percent of the Democratic representatives under the age of forty voted against the Board, but ninety percent of those ages sixty and above voted against the Board. The age of the legislator was particularly important for the Democrats, unlike the

Whigs, after we controlled for the effects of the other variables. Democrats who grew up in the late eighteenth and early nineteenth centuries were more apt to have acquired a distrust of state power and state aid to local education than their younger counterparts.

Democrats who had been in the legislature one year before 1840 were particularly hostile to the Board of Education and the Normal Schools; the same was true of the Whig legislators. We have no ready explanation for this coincidence since there is no obvious reason why legislators who served in 1839 (as most of those in this category did) should have been especially negative to the reform efforts of Horace Mann. In any case, the number of years in the legislature before 1840 was not a particularly strong predictor of voting behavior for either the Whigs or the Democrats.

The Democrats from the more competitive districts were less hostile to the Board of Education than those from safe districts. The reverse had been true for the Whigs. Whigs from more competitive districts were more hostile to the Board of Education than those from safe districts. Thus, it appears that Democrats generally opposed the Board while Whigs generally supported the Board. However, those Democrats and Whigs from more competitive areas were more apt to vote against their party's position--perhaps because they saw their position as marginal and wanted to protect themselves from potentially irate constituents who did not share their party's views.

The economic development of the representative's town was a major factor in predicting his vote among the Democrats as well as among the Whigs. Of the Democrats from areas with a low proportion

Table No. 5

Vote to Abolish the State Board of Education Among the Democrats in the Massachusetts House of Representatives in 1840: Class Means, Adjusted Means, and Net Deviations

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Occupation of Legislator:				
Professional	46.7	52.1	-15.1	15
Merchant	77.8	79.4	+12.2	27
Manufacturer	47.1	57.3	- 9.9	17
Farmer	75.3	73.0	+ 5.8	89
Other	59.4	66.9	- .3	32
Not Ascertained	58.3	30.2	-37.0	12
Age of Legislator:				
25-34	60.0	67.2	0	25
35-39	52.9	51.6	-15.6	34
40-49	68.9	60.2	- 7.0	61
50-59	68.6	66.7	- .5	35
60 and Above	90.5	88.4	+21.2	21
Not Ascertained	68.8	100.0	+32.8	16
Number of Years in Legislature Before 1840:				
None	67.0	67.7	+ .5	94
One Year	67.3	71.2	+ 4.0	53
Two Years	78.6	67.1	- .1	14
Three or More Years	63.6	58.7	- 8.5	22
Not Ascertained	57.1	56.0	-11.2	7

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Competitiveness of District:				
Competitive	33.3	53.9	-13.3	64
Non-Competitive	62.0	74.8	+ 7.6	119
Not Ascertained	4.7	61.7	- 5.5	9
Commercial/Manufacturing Index of Town:				
Low Commerce, Low Manufacturing	90.1	85.7	+18.5	71
Low Commerce, High Manufacturing	59.2	61.2	- 6.0	76
High Commerce, Low Manufacturing	47.4	69.2	+ 2.0	19
High Commerce, High Manufacturing	29.4	14.5	-52.7	17
Not Ascertained	66.7	66.7	- .5	9
Population/Wealth Index of Towns:				
Population 0-2499, Low Valuation	71.9	65.1	- 2.1	57
Population 0-2499, High Valuation	71.4	60.4	- 6.8	63
Population 2500 & Above, Low Valuation	54.8	68.5	+ 1.3	31
Population 2500 & Above, High Valuation	62.5	83.1	+15.9	32
Not Ascertained	66.7	66.7	- .5	9

	Class Mean	Adjusted Mean	Net Deviation	Number of Cases
Unitarian Church in Town:				
Yes	60.7	66.0	- 1.2	89
No	72.8	68.3	+ 1.1	103
Geographic Location Within State:				
Central	59.1	69.2	+ 2.0	66
Western	89.6	78.4	+11.2	67
Southern	50.8	52.2	-15.0	59
Total	67.2			192

Table No. 6

Vote to Abolish the State Board of Education Among the Democrats in the Massachusetts House of Representatives in 1840: Eta^{2}s, Betas, and R^2

	Eta^2	Beta
Occupation of Legislator	.2428	.2597
Age of Legislator	.0213	.3014
Number of Years in Legislature Before 1840	.0066	.0894
Competitiveness of District	.0263	.2090
Commercial/Manufacturing Index of Town	.1571	.4191
Population/Wealth Index of Town	.0185	.1629
Unitarian Church in Town	.0115	.0238
Geographic Location Within State	.1174	.2269

$R^2 = .2454$

Note: The eta^{2}s and R^2 have been adjusted for degrees of freedom

of workers in commerce or manufacturing, 90.1 percent voted against the Board while of those from communities with a high percentage of workers in commerce and manufacturing, only 29.4 percent opposed the Board. Similarly, Democrats from smaller communities tended to oppose the Board more than those from the larger communities.

Just as with the Whigs, the presence or absence of a Unitarian Church in town did not influence voting patterns among the Democrats once we controlled for the other factors. However, the geographic location of a legislator's district within the state was important. Paralleling the pattern we found for the Whigs, Democrats from Western Massachusetts were much more hostile to the Board of Education and the Normal Schools than those from either Central or Southern Massachusetts.

Overall, the strongest predictor of the pattern of voting among the Democrats was the commercial/manufacturing index of the town with the age of the legislator the next best predictor. Compared to the determinants of voting behavior among the Whigs, personal characteristics of the legislators such as their occupation and their age played a more important role. For both the Whigs and the Democrats, however, the best predictors of their voting behavior were the variables which measured the characteristics of the towns which they represented.

It is impossible for us to determine by our statistical measures whether the Whigs and the Democrats who deviated from their party's position on this bill did so because they were worried about pleasing their constituents or whether they shared a different philosophy than their colleagues because they lived in a different setting. Nonetheless, on the basis of our readings of literary materials as well as our effort to control for possible constituent pressure by the inclusion of the variable on the competitiveness of the district, it seems to us that Whigs from rural and agricultural areas, especially those from Western Massachusetts, did not subscribe to the general notions of the Whig Party in Massachusetts on the desirability or need of a State Board of Education. Similarly, Democrats from the larger and more economically developed towns, especially from Central and Southern Massachusetts, were less likely to share the traditional Democratic fears of excessive state power and unnecessary state expenditures on the issue of the Board of Education and the Normal Schools.

III. Conclusion

Our analysis of the attempts to abolish the Board of Education and the Normal Schools in the Massachusetts House in 1840 suggests that there were substantive differences between the Whigs and the Democrats on the issue of education. Both the Whigs and the Democrats agreed on the value and the importance of a common school education. There was a consensus among almost all groups in Massachusetts that facilities for the public education of children should be provided in every community. But there was considerable disagreement on the nature of that education as well as the role of the state in its development and control.

Most Democrats did not share the Whig enthusiasm for spending state money to create and maintain teacher seminaries--partly because the Democrats did not always see the need for a corps of professionally trained teachers and partly because they felt that the task could be adequately handled by the existing private academies. An even more important, fundamental disagreement between Whigs and Democrats was over the proper role of state government in society. The Whigs argued that positive government intervention was a necessary and useful means of improving the quality of public schools throughout the Commonwealth. The Democrats, on the other hand, felt that any increased state interference in local educational matters created the potential, if not the reality, of a centralized state school system which would inevitably dictate the way in which children were educated. Furthermore, many Democrats felt that the present Board of Education and the Normal Schools were unnecessary state expenses at a time when the state needed to retrench its expenditures. Horace Mann and the Whigs never fully appreciated the depth of the fears of the Democrats that the creation of a state agency to do good might eventually result in a serious danger to freedom within the Republic. From Mann's perspective and personal experience, the Board of Education was not a threat to the liberties of the citizens, but a vital and necessary force in educating children to preserve the Republic. He saw the minor cost of the Board of Education and the Normal Schools as a small price to pay for properly training future generations of voters. In short, most of the differences between Whigs and Democrats on the issue of education in Massachusetts was not over the benefits and value of public schools, but over the best means of improving them and protecting the liberties of the people.

Although there were real differences between Whig and Democratic spokesmen on the issue of the Board of Education and the Normal Schools, the legislators did not always accept their party's position on this question. Both the Whigs and the Democrats appealed to their followers along party lines, but nearly a fifth of the Whigs and a third of the Democrats disregarded these pleas--even though on other vital issues, such as the reduction in state salaries and the laws involving corporations, they united solidly behind their party. There are several reasons for the unwillingness of some representatives to vote with their party on the issue of the Board of Education and the Normal Schools. First, Horace Mann had been quite successful in convincing many of the potential opponents of the Board among the Democrats and Orthodox Congregationalists that the Board of Education was really a non-partisan and non-sectarian agency dedicated to the promotion of better schools only through persuasion and information gathering. This task was made much easier by the fact that the Board of Education received strong support from such prominent Democrats as Robert Rantoul, Jr., and eminent Trinitarians like Thomas Robbins. Second, the Board of Education and the Normal Schools were successful in developing strong constituent support-- especially in the areas where the Normal Schools were located. Although there was no popular outcry to save the Board and the Normal Schools during these legislative battles, there was sufficient constituent support for them in some areas that local representatives were anxious not to oppose these institutions. Third, although each party took a definite position on the Board of Education and the Normal Schools, these issues did not become important state-wide campaign issues. Therefore, it was easier for representatives to defect from their party's position on this bill without feeling that they had publically betrayed the fundamental principles of their party. In other words, though party affiliation was the single best predictor of voting behavior on the bill to abolish the Board of Education and the Normal Schools, it was not so strong that legislators automatically voted along party lines. Instead, they often allowed personal and constituent preferences to overcome their party's preferences on this bill.

Some historians have emphasized the role of religious opposition in this controversy. We do not deny the importance of religion as one factor, but our results do not support the idea that it is a salient explanation of the division within the legislature on this bill. Religious opposition was particularly important in motivating some of the leaders in the fight against the Board, such as Allen Dodge, but we doubt if the pattern of voting on the bill followed religious rather than political lines. Horace Mann and the Board of Education were successful in defending themselves against the charges of being advocates of Unitarianism so that many Trinitarians in the legislature probably did not support the effort to abolish the Board of Education and the Normal Schools.

Other historians have emphasized the role of manufacturers and other capitalists in creating and maintaining the Board of

Education. Our analysis certainly confirms that representatives who were manufacturers were more likely to support the Board of Education than other groups. But we also see the role of manufacturers in the legislature from a broader and more complex perspective. Although legislators who were manufacturers were relatively more supportive of the Board than other groups, it is also important to remember that nearly one half of Democratic manufacturers still opposed the Board of Education and the Normal Schools. Similarly, rather than focusing on areas with a high degree of manufacturing as being particularly supportive of the Board, our emphasis is on the support for the Board of Education from all economically developed communities within the state (i.e. those with a high degree of commercial or manufacturing development, or both). Finally, it is important to remember that the fight over the Board of Education in the House involved religious and political considerations as well as economic ones. Much of the current emphasis of revisionist historians on the role of manufacturers and other capitalists in Massachusetts educational reform has been at the expense of other factors which were equally, if not more, important in accounting for the behavior of nineteenth-century Americans.

In addition to our substantive contributions on the supporters and the opponents of the Board of Education and the Normal Schools in Massachusetts, we have tried to demonstrate the value of using more sophisticated statistical techniques such as multiple classification analysis for studying legislative voting behavior in the past. The use of MCA techniques has permitted us to ascertain the relative importance of various factors in predicting the pattern of the vote on the bill to abolish the Board of Education and the Normal Schools. We hope that the incorporation of MCA analysis in future studies of legislative behavior will permit historians to develop and test more complex models of the interaction of personal and constituent characteristics in explaining the pattern of voting.

Multiple classification analysis has allowed us to compare the importance of party affiliation with the personal and constituent characteristics of the House members and to demonstrate that the influence of party loyalty, while paramount, was substantially modified by the socioeconomic characteristics of the legislators and their towns. A central state Board of Education not only made more sense to one party than to the other. It also made more sense in some settings than in others.

FOOTNOTES TO CHAPTER V

1. For example, see George H. Martin, *The Evolution of the Massachusetts Public School System: An Historical Sketch* (New York, 1894); Ellwood P. Cubberley, *Changing Conceptions of Education* (Boston, 1909).

2. Frank Tracy Carlton, *Economic Influences Upon Educational Progress in the United States, 1820-1850*, ed. Lawrence A. Cremin ("Teachers College Classics in Education," No. 27; New York, 1965).

3. Samuel Bowles and Herbert Gintis, *Schooling and Capitalism in America: Educational Reform and the Contradictions of Economic Life* (New York, 1976); Alexander James Field, "Educational Reform and Manufacturing Development in Mid-Nineteenth Century Massachusetts" (unpub. Ph.D. dissert., Dept. of Economics, Berkeley, 1974).

4. Most educational historians have relied on the writings of the participants in that debate while economic historians, such as Alexander Field, tend to use indirect measures of educational support such as the length of the public school year. For a discussion of the recent approaches to American educational history, see Carl F. Kaestle, "Conflict and Consensus Revisited: Notes toward a Reinterpretation of American Educational History," *Harvard Educational Review*, XLVI, No. 3 (August 1976), 390-396.

5. The most detailed analysis of the legislative fight in 1840 is Raymond B. Culver, *Horace Mann and Religion in the Massachusetts Public Schools* ("Yale Studies in the History and Theory of Religious Education," No. 3; New Haven, 1929), pp. 127-162. Culver stressed the importance of the threat to the Board of Education and attributes it to the efforts of the religious opponents of the Board.

   The most recent, comprehensive biography of Horace Mann argues that the threat to the Board of Education in the legislature has been greatly exaggerated by most historians. Jonathan Messerli, *Horace Mann: A Biography* (New York, 1972), pp. 309-348. Messerli did not, however, fully investigate the political situation in the legislature and the state in 1840, and thus he underestimated the dangers to the Board of Education.

   For a study of the legislative challenge to the Board of Education from the perspective of Horace Mann's ideas on the economic value of education, see Maris A. Vinovskis, "Horace Mann on the Economic Productivity of Education," *New England Quarterly*, XLIII, No. 4 (December 1970), 550-571.

6. There have been some very useful efforts recently to study voting behavior on local issues in Jacksonian America. For For example, see Herbert Ershkowitz and William G. Shade, "Consensus or Conflict? Political Behavior in the State Legislatures During the Jacksonian Era," Journal of American History, LVIII, No. 3 (December 1971), 591-621; Peter Levine, "State Legislative Parties in the Jacksonian Era: New Jersey, 1829-1844," Journal of American History, LXII, No. 3 (December 1975), 591-608.

   Though both of these articles add to our limited knowledge of party divisions on local issues, they also suffer from some methodological shortcomings. For example, Ershkowitz and Shade present the percentage of party voting on bills favorable to public education in six states. But since we are not informed on what issues were involved, it is difficult to assess these results; Whigs and Democrats could often agree on the value of common school education, but would disagree on the best methods of implementation. Furthermore, both of these articles analyze the votes in the legislatures on the basis of party differences, but do not devote sufficient attention to the importance of considerations such as the other personal characteristics of the legislators or the nature of their constituents.

7. Political historians have been relatively sophisticated in their use and development of indices of roll-call voting behavior. For example, Allan G. Bogue and others have effectively used a variety of techniques such as Guttman scaling, factor analysis, and cluster analysis to ascertain patterns of voting using a series of roll-call votes. However, they have not used multiple classification analysis to relate the personal and constituent characteristics of the legislators to their pattern of voting. For an example of the use of multiple regression analysis to predict the outcome of legislative voting from the personal and constituent characteristics of state legislators, see Maris A. Vinovskis, R. Marshall Jones, and Thomas New, "Determinants of Legislative Voting Behavior on Population Policy: An Analysis of the Massachusetts House of Representatives in 1970 and 1971," in Population Policymaking in the American States: Issues and Processes, ed. Elihu Bergman, et. al. (Lexington, Mass., 1974), pp. 239-255.

8. Much of the credit for the efforts to obtain state support for a teacher seminary as well as for the Board of Education belongs to James G. Carter. For an analysis of Carter's activities, see Jonathan Messerli, "James G. Carter's Liabilities as a Common School Reformer," History of Education Quarterly, V (March 1965), 14-25.

9. Laws of Massachusetts, March 31, 1834, chapter 169.

10. Henry Barnard, *American Educational Biography, Memoirs of Teachers, Educators, and Promoters of Education, Science, and Literature* (New York, 1974), p. 339.

11. *Address of His Excellency Edward Everett to the Two Branches of the Legislature, on the Organization of the Government, for the Political Year Commencing January 4, 1837. Senate Document No. 1* (Boston, 1837), p. 17.

12. The House first defeated the bill by a vote of 113 to 61, but James Carter succeeded in getting the House to reconsider the measure. Culver, *Horace Mann and Religion in the Massachusetts Public Schools*, p. 30.

13. Horace Mann, *Journal*, June 30, 1837, Horace Mann Papers, Massachusetts Historical Society (MHS), Boston.

14. *The Common School Controversy; consisting of Three Letters of the Secretary of the Board of Education, of the State of Massachusetts, in reply to Charges Preferred against the Board, by the Editor of the Christian Witness and by Edward A. Newton, Esq., of Pittsfield, Once a Member of the Board; to which are added Extracts from the Daily Press, in regard to the Controversy* (Boston, 1844), p. 27.

15. For a discussion of the membership on the first Board of Education, see Culver, *Horace Mann and Religion in the Massachusetts Public Schools*, pp. 31-32. Robert Rantoul's support of the Board of Education was very important because of his position within the Democratic party. For a discussion of his career, see Robert DeGroff Bulkey, Jr., "Robert Rantoul, Jr., 1805-1852: Politics and Reform in Antebellum Massachusetts" (unpublished Ph.D. thesis, Dept. of History, Princeton University, 1971).

16. For an analysis of Horace Mann's controversies with Frederick Packard, see Culver, *Horace Mann and Religion in the Massachusetts Public Schools*, pp. 55-110.

17. The best analyses of the political situation in Massachusetts in the late 1830's can be found in Arthur B. Darling, *Political Changes in Massachusetts, 1824-1848: A Study of Liberal Movements in Politics* ("Yale Historical Publications," No. 15; New Haven, 1925); Robert J. Haws, "Massachusetts Whigs, 1833-1854," (unpub. Ph.D. dissert., Dept. of History, University of Nebraska, 1973).

18. On the politics of temperance, see Joseph R. Gusfield, *Symbolic Crusade: Status Politics and the American Temperance Movement* (Urbana, Ill, 1963), pp. 36-60.

19. To obtain information on the political affiliation of the members of the Massachusetts House in 1840, we used three sources. The Boston Daily Advertiser of January 1, 1840 published a list of the members of the House and their political affiliation. In addition, we used William Lincoln's list of Whigs and Democrats in the Massachusetts House in 1839 and his list of members to the Whig Convention in 1840. William Lincoln's lists can be found in the Lincoln Papers at the American Antiquarian Society, Worcester, Massachusetts.

20. There was a generally high rate of turnover among Massachusetts legislators during these years. Ron Formisano, of Clark University, has calculated the annual turnover rates for the Massachusetts legislature during these years as part of his larger project on the analysis of ante-bellum Massachusetts politics.

21. All the information on occupations was obtained from the Tillinghast Manuscript Catalogue of Massachusetts Legislators in the State Library in the Massachusetts State House (Boston). Every effort was made to code the occupation exactly as it was given in that file. Sometimes more than one occupation was given for the legislator. Therefore, we used two occupational categories (if more than two were given, the two most important ones were selected--however, very few legislators had more than two occupations listed). There is no particular reason why the occupation of a legislator with two or more occupations was assigned to the first or second category in our coding. However, we experimented with our analysis to see how the listing of more than one occupation would affect our results and found that it altered our findings very little.

The identification numbers assigned to these occupations comes from a larger occupational dictionary that has been used in other historical projects (though the numbers do not coincide precisely). However, we categorized the occupations into professionals, merchants, etc. on the basis of inspecting the data and comparing our occupations to other schemes for categorizing nineteenth-century occupations. The user of this source of occupational data should be aware that our occupational categories are very broad and that any specific occupation listed for a legislator is very difficult to interpret (for example, does a comb maker manufacture combs, or merely works in a shop that produces them? Similarly, does a miller own a mill or merely work in one?). We cannot be confident of the meaning of any particular occupation of a legislator; however, the results overall probably do indicate the general occupational groupings of the legislators.

22. These geographic subdivisions were drawn to reflect socio-economic differences within the state from an earlier study of the determinants of fertility differentials in the state. For a more detailed discussion of these regions, see Maris A. Vinovskis, Demographic Changes in America from the

Revolution to the Civil War: An Analysis of the Socio-Economic Determinants of Fertility Differentials and Trends in Massachusetts from 1765 to 1860 (Academic Press, forthcoming).

23. The data on the percentage of workers engaged in commerce or manufacturing in each town comes from the U.S. Census of 1840. On the basis of the distributions of our legislators, we defined low commerce as towns with less than twenty percent of the workers in commerce, and low manufacturing as towns with less than thirty percent of the workers in manufacturing.

24. One very useful index of the relative importance of various campaign issues in 1839 is a circular sent by the Whig State Central Committee to the chairmen of the Whig town committees. The seventh question on the circular asked: "Were the voters influenced by other considerations than those of a political character? If so, please state, in a general manner, whether they were local, or grew out of the legislation on temperance, the militia, railroads, or other causes."

The replies from forty-six Worcester County towns have been preserved. The most commonly cited issue was the legislation on temperance. None of the returns even mentioned any issue relating to the Board of Education or to the Normal Schools. These manuscript replies are catalogued under Worcester County Statistical Materials, 1765-1840, at the American Antiquarian Society, Worcester, Massachusetts.

We also examined a large number of Massachusetts newspapers for 1839 and 1840, but found very little mention of education in them. Similarly, we went through the personal papers of a variety of leading politicians such as Edward Everett, George Bancroft, Marcus Morton, and John Davis, but found almost no discussion about the Board of Education or the Normal Schools.

25. Orestes Augustus Brownson's attack on the Board of Education is found in the October 1839 issue of his magazine, Boston Quarterly Review. For analyses of the ideas and role of Orestes Augustus Brownson, see Arthur M. Schlesinger, Jr., A Pilgrim's Progress: Orestes A. Brownson (Boston, 1939); Leonard Gilhooley, Contradiction & Dilemma: Orestes Brownson and the American Idea (New York, 1972).

26. Culver, Horace Mann and Religion in the Massachusetts Public Schools, pp. 130-131.

27. Mann, Journal, January 5, 1840.

28. Address of His Excellency Marcus Morton, to the Two Branches of the Legislature, on the Organization of the Government, for the Political Year Commencing January 1, 1840. House Document No. 9 (Boston, 1840), p. 30.

29. Reports on the Reduction of Salaries and the Abolishing of Commissions. House Document No. 22 (Boston, 1840), pp. 1-48.

30. Ibid., pp. 21-22.

31. Ibid., pp. 22-23.

32. Mary Peabody Mann, Life of Horace Mann (Washington, D.C., 1937), pp. 123-124.

33. Roll-call vote number twenty in the Journal of the House for 1840 located at the Massachusetts State Library at Boston.

34. The resolution was introduced by Cyrus Alden, the Whig member of the Committee on the Reduction of Salaries who sided with the Democrats on this issue.

35. There are several recent works that emphasize the fear that Democrats in Jacksonian America had of any increases in governmental power. For example, see Rush Welter, The Mind of America: 1820-1860 (New York, 1975), pp. 165-189.

36. Report of the Committee on Education. House Document No. 49 (Boston, 1840), pp. 2-3.

37. Ibid., p. 6.

38. Ibid., p. 9.

39. Ibid., p. 10.

40. Minority Report of the Committee on Education. House Document No. 53 (Boston, 1840), p. 2.

41. Ibid., p. 12.

42. Petitions in support of the Board of Education and the Normal Schools were sent by the citizens of New Bedford, the citizens Lexington, Elisha Bartlett and seventeen other signers, the officers of the Barre Normal School Association, and the Salem School Committee. These petitions are available in the Massachusetts House File for 1840, Number 817 at the Massachusetts Archives of the Massachusetts State House in Boston.

43. Boston Daily Advertiser, March 18, 1840.

44. A letter to the editor of the Boston Mercantile Journal by "A Whig" was written as a reply to a letter in the Bay State Democrat "in which the odium of the attempt to abolish the Board of

Education is attempted to be thrown, by implication, on the Whig party, through the conduct of the principle movers against the Board, on the Committee on Education, the [?] Messrs Dodge and Emerson. Now, sir, I have no disposition to shield the conduct of Messrs Dodge and Emerson from the reproach it so well deserves; but I protest against the Whig party being held responsible for their conduct. This Jack Cade effort, is a loco foco measure; the loco foco party go for it, as a party; (though there are some honorable, noble exceptions) and now they are chuckling and laughing in their sleeves, to think they have succeeded in throwing the odium of the measure upon their cats' paws, the two Whig members of the majority of the Committee." Boston Mercantile Journal, March 12, 1840.

45. Though the full debate on the bill to abolish the Board of Education and the Normal Schools was held on March 18, 1840, there were numerous skirmishes on the issue in the preceding two weeks. The course of the bill can be followed in the Journal of the House for 1840.

46. A summary of Dodge's speech can be found in the Boston Daily Advertiser.

47. Frederick Emerson was not opposed to all of the functions of the Board of Education. In fact, he tried, unsuccessfully, to offer an amendment to transfer the duties of the Board of Education to the Governor and the Council. In addition, it was Frederick Emerson who moved for a reconsideration of a bill to assist financially the American Institute of Instruction after the bill had been turned down for a second reading.

48. The text of Shaw's speech can be found in the Common School Journal, II (1840), 239ff.

49. Roll-call vote number twenty-two in the Journal of the House for 1840.

50. The twenty-four roll-call votes for that session were taken from the Journal of the House for 1840.

51. For a discussion of the occupational data in the Tillinghast Manuscript Catalogue of Massachusetts Legislators, see footnote number twenty-one.

52. For a discussion of the data on party affiliation, see footnote number nineteen.

53. There are serious conceptual and data problems in trying to define "urbanization." After reviewing the literature in this area and considering the alternatives, it seemed that the most

appropriate definitions should be based on population size and/or population density. For an extended discussion of this problem, see Chapter IV.

54. The information on the occupational distribution of workers in the towns was obtained from the U.S. Census of 1840. The data on the per capita valuation of manufacturing and commerce is based on the state valuation data for 1840.

55. The votes for Massachusetts elections were obtained from the manuscript returns of elections in the Massachusetts Archives at the Massachusetts State House in Boston.

56. Information on the number and type of churches in each town was obtained from the Massachusetts Register and the United States Calendar for 1840 (Boston, 1840), pp. 128-145. Unfortunately, it was impossible to distinguish Unitarian Churches from Orthodox Congregational Churches. Therefore, we used information on Unitarian Churches available in 1846 from the Unitarian Yearbook in 1846.

57. Information on the use of Bibles used in schools as well as the names of the school committee members were gathered from the Annual Reports of the Massachusetts Board of Education.

58. The data on various indices of educational effort were calculated from the Annual Reports of the Massachusetts Board of Education.

59. For an excellent, well-written introduction to multiple classification analysis, see Frank M. Andrews, J. N. Morgan, John A. Sonquist, and Laura Klem, Multiple Classification Analysis (2nd ed., Ann Arbor, 1973). Demographers and sociologists have long used MCA. For example, see Otis Dudley Duncan, "Residential Areas and Differential Fertility," Eugenics Quarterly, XI (1964-65), 82-89, and, more recently, James A. Sweet, Women in the Labor Force (New York, 1973). Step-wise MCA may be used when a group of predictors is logically prior to other variables. For example, see Allen Schnaiberg, "The Modernizing Impact of Urbanization: A Casual Analysis," Economic Development and Cultural Change, XX (October 1971), 80-104.

60. For a detailed discussion of the interaction problem, see John A. Sonquist, Multivariate Model Building: The Validation of a Search Strategy (Ann Arbor, 1970).

61. Bowles and Gintis, Schooling and Capitalism in America; Field, "Educational Reform and Manufacturing Development."

62. Martin, The Evolution of the Massachusetts Public School System.

63. On the problems of our occupational data, see footnote number twenty-one.

64. On the problems of studying occupational categories in the nineteenth century, see Stuart Blumin, "The Historical Study of Vertical Mobility," Historical Methods Newsletter, I (September 1968), 1-13; Clyde Griffen, "Occupational Mobility in Nineteenth-Century America: Problems and Possibilitios," Journal of Social History, V (Spring 1972), 310-330; Michael B. Katz, "Occupational Classification in History," Journal of Interdisciplinary History, III (Summer 1972), 63-88; Theodore Hershberg, et. al., "Occupation and Ethnicity in Five Nineteenth-Century Cities: A Collaborative Inquiry," Historical Methods Newsletter, VII (June 1974), 174-216.

65. For example, Culver, Horace Mann and Religion in the Massachusetts Public Schools.

66. We defined as non-competitive those areas where the vote for the gubernatorial candidate of the legislator's own party received at least fifty-five percent of the vote.

67. Low commerce was defined as towns with less than twenty percent of its workers in 1840 engaged in commerce and low manufacturing was defined as towns with less than thirty percent of its workers engaged in manufacturing in that year.

68. On the importance of separating as much as possible manufacturing from commercial development in analyzing nineteenth-century economic development, see Vinovskis, Demographic Changes in America from the Revolution to the Civil War.

69. This finding parallels our analysis of the relationship between urbanization and educational development in our earlier work. Kaestle and Vinovskis, "From One Room to One System."

70. Naturally, there is some overlap between religious and political affiliations of legislators since a higher proportion of the Whigs probably were Unitarians than the Democrats. However, we do not think that the overlap is so strong that political party is merely masking the religious orientation of the members.

71. The state was subdivided into geographic areas to reflect socio-economic differences rather than political differences. See footnote number twenty-two for further references on this issue.

72. On the opposition to Horace Mann and the Board of Education in Western Massachusetts, see Richard D. Birdsall, Berkshire County: A Cultural History (New Haven, 1959), pp. 103-151.

73. There appears to have been unusually strong support for the Normal Schools in Plymouth county compared to either Middlesex or Worcester counties, the sites of the other two Normal Schools. For a discussion of the creation of the Normal Schools and the political problems associated with choosing a suitable location, see Culver, Horace Mann and Religion in the Massachusetts Public Schools, pp. 111-126.

74. On the use of Bibles and the presence of clergymen as indices of religious orientation in the schools, see Charles E. Bidwell, "The Moral Significance of the Common School," History of Education Quarterly, VI, No. 3 (Fall 1966), 50-91.

75. We have no ready explanation for this pattern. Perhaps it indicates that Horace Mann had succeeded in convincing most people that he was not opposed to the use of Bibles in the schools. Therefore, representatives from communities which used a Bible did not feel threatened by the Board of Education on this issue, even though the religious opponents of Mann tried to convince people that Mann and the Board were opposed to the use of any religious materials in the classrooms--even Bibles. We also ran another MCA which used as a variable whether or not the schools in that town had ever used a Bible between 1837 and 1841. The results of that analysis were nearly identical to the one in which we asked if the schools in the town were using a Bible in 1840.

76. One interesting point is that we were able to test the strength of the relationship between the length of the public school year and the vote on the bill to abolish the Board of Education and the Normal Schools. Alexander Field has used the length of the public school year as the index of support for educational reforms in Massachusetts. Field, "Educational Reform and Manufacturing Development." We found that there was a positive relationship between the length of the public school year and the vote on this bill. However, the relationship between these two variables by themselves was not very strong (adjusted eta^2 = .1156). In other words, the use of the average length of the public school year as the index of the relative support for the educational reforms of Horace Mann and the Board of Education is questionable in light of our findings.

77. For a further discussion of the variations in support of education by the different areas of the state, see Chapter IV.

78. The Rice index of cohesion for Whigs on that vote was 62.2 while for the Democrats it was only 34.4.

79. Throughout the fight over the Board of Education and the Normal Schools, both the Whigs and the Democrats emphasized their own party position on the issue while at the same time trying to attract members from the other party to their side on this bill.

80. The Rice index of cohesion for Whigs on the bill to reduce the salaries of state officials was 83.2 while for the Democrats it was 90.8.

CHAPTER VI

FROM APRON STRINGS TO ABC's: PARENTS, CHILDREN, AND SCHOOLING IN NINETEENTH-CENTURY MASSACHUSETTS

During the past ten years there has been a dramatic change in the care of very young children. Children today are entering school at an earlier age; special nursery schools and day-care centers have been developed to accommodate three and four year olds. While in 1965 only 10.3 percent of white children ages three and four were enrolled in school, by 1974 that figure had jumped to 28.6 percent (the comparable estimates for the nonwhite population are 11.8 percent and 30.0 percent).[1] But this shift toward the institutionalization of very young children has not gone unchallenged. Some scholars contend that early education does not really help the child to develop more effectively in the long-run. In fact, many critics argue that the proper educators of very young children should be their parents rather than a nursery school teacher.[2] The entire question of when children should enter school and what they should be taught is the focus of considerable debate among parents and educators in the United States today.

In the past, the relationships among parents, children, and school have also been important and problematic in America. Although the family was initially charged with the education of its own children, schools were soon created to assist them; in time, many of the educational duties of parents were assumed by schools. Yet, surprisingly little effort has been made by historians to study the changing attitudes about when children should enter school and why. There are several possible explanations for this neglect. Very little information is available on the care and behavior of very young children in the past. In addition, some historians have simply assumed that there have been no major changes in the age of school entry.[3] Finally, most historians who have studied childhood in America have been more concerned with the experience of older children than younger ones. As a result, though we have had several useful articles on the relationship of family, school, and work for adolescents, almost nothing has been done on the transition from family to school by young children.[4]

In our study of Massachusetts education we discovered that "enlightened" educational thought has not consistently endorsed early schooling, despite periodic enthusiasm for infant schools, kindergartens, and Head Start. In the period from 1830 to 1880, progressive educational spokesman and medical authorities counselled against the school education of children from the ages of two to four or even five, and they waged a slow but successful battle with parents to keep children of that age at home.

The story of this campaign has relevance for two related areas of sociological theory: the normative contrast between the modern family and school settings, analyzed by Robert Dreeben, and the broader theory of institutional differentiation, based upon Talcott Parson's structural functionalism and explored historically by Neil Smelser and others.[5] According to Dreeben, schools encourage independence and self-reliance, in contrast (prototypically, at least) with the supportiveness and cooperation of family members. Schools accord merit on the basis of achievement, while parents have a fundamental commitment to their children apart from their accomplishments. Schools are committed to principles of impersonality and impartiality, in tension with the intimate relationships and favored status of family members. Although often breached, this commitment leads to such procedures as age categorization as well as standardized and anonymous testing. Finally, the size and staff specialization of schools foster secondary rather than primary relationships, that is, relationships both transient and based exclusively on a stated purpose.[6] These norms--labelled independence, achievement, universalism and specificity by Dreeben--were not articulated in the nineteenth century in this form, but the concept of different, indeed antagonistic, values in families and schools has its historical roots in the period we analyze here, 1830 to 1880.

The Massachusetts Teacher proclaimed in 1857, that "adults are treated by society in an entirely different way" than children in the family. "The child stands between the two extremes and a transition from one to the other, sudden or gradual, methodical or planless, will make a vast difference in the formation of the child's character . . . The important duty to act as a medium falls upon the school in general, and upon the Primary school in particular." The Dedham school committee divided up the responsibilities between parents and teachers simply in 1856: "Each has at heart the interests of the same object, but in departments usually quite different from each other. The one feeds and clothes; the other educates." How far Dedham had come from Puritan days! By 1874 a group of influential urban educators in a Statement of the Theory of Education stated that the American school must "draw the child out of the influence of family-nurture earlier than is common in other countries." Because of the need for self-restraint in a democracy, schools should "lay more stress upon discipline and to make far more prominent the moral phase of education."[7]

During this period we witness, for the first time, a realization by educators that the school setting was fundamentally different from the family setting. One of the causes for this realization was the fact that during the same decades schools were indeed becoming more clearly differentiated from families, as siblings became separated and age cohorts regimented by grading, anonymity increased with size, curriculum became standardized, and textbooks uniform. This brings us to the general theory of institutional differentiation. Statements by educators and attendance patterns by young children allow us to view the historical actors shaping and reacting to the emerging boundaries of family and school experience in the nineteenth century. The age at which a child should make the important transition from family to school became more problematic as the institutions became more differentiated. The resolution of this problem occasioned an important change in the attitude of educators on the age at which children should enter school. Whereas it was quite normal for very young children to be educated in the dame schools, infant schools, or common schools of the early nineteenth century, by the mid-nineteenth century there was considerable hostility to the sending of three or four year olds to any school. Furthermore, while in the late eighteenth and early nineteenth centuries it was expected that children should learn to read at an early age, by the mid-nineteenth century educators argued that children should not participate in such intellectual activities too early. This chapter documents and attempts to explain these shifts.

I. Children, Parents, and the Schools in Colonial Massachusetts

Education was one of the cornerstones of Puritan society. Since the Puritans assumed that education was vital for the religious development of their children, it was important that adequate educational opportunities be made available for all the children in the New World. The primary locus of education for the Puritans was the family, but the state was willing to intervene when and if the family failed to educate its children.[8] Massachusetts' early leaders assumed that parents would instruct their children not only in reading and writing, but also in religion. They expected parents to catechize their children at home as a normal part of their initial religious training. In the eyes of the Puritans, the ability for each individual to read and understand the Bible was an essential prerequisite for their personal salvation.

The Puritans' earliest educational efforts were directed at Harvard and the town grammar schools, which prepared children for the university. A few towns such as Salem did maintain petty or dame schools to teach children reading and writing, but most towns simply assumed that the parents rather than the school would instruct their children in the rudiments of literacy. By the mid-1640's, however, it was evident that many Massachusetts towns had failed to establish either petty or grammar schools for their children. As a result, the Massachusetts General Court enacted a law in 1647 that required the establishment of different types of schools on the basis of the number of households in those towns.

> It is therefore ordered, that every township in this jurisdiction, after the Lord hath increased them to the number of fifty householders, shall then forthwith appoint one within their town to teach all such children as shall resort to him to write and read, . . . and it is further ordered, that where any town shall increase to the number of one hundred families or householders, they shall set up a grammar school, the master thereof being able to instruct youth so far as they may be fitted for the university....[9]

Thus, although the Puritans placed the primary responsibility for educating children on the family, they also favored the establishment of schools at the town level for both elementary and advanced learning. They saw these schools as supplements to education within the family, and they made no effort to require parents actually to send their children to school rather than train them at home.

The law of 1647 gives us a good indication of the attitude of the Puritan leadership toward schools, but it was never vigorously enforced. In a comprehensive survey of seventeenth-century education in the Massachusetts Bay Colony, Geraldine Murphy found that while all of the eight towns required to maintain grammar schools did so, only a third of the towns required to establish reading and writing schools complied with the law. Colonial Massachusetts had taken a major step toward the creation of formal schooling for its children, but there was no uniformity in the amount and type of education available in the various towns. In some communities parents had no choice but to teach their own children while in other towns they could send them to schools to acquire a more thorough education.[10]

One of the major limitations in discussing the relationships among children, parents, and schools in colonial America is that we have very little information on the actual educational experiences of the population. We do have considerable information on the educational philosophy of the Puritan leaders and some scattered references to children's learning, but we do not have any comprehensive surveys of the extent and type of education children in Massachusetts received. We shall venture some preliminary speculations, however, on the basis of the existing studies.

The population of colonial Massachusetts has always been regarded as highly literate compared to Western Europe at that time. The early settlers of Massachusetts were generally better educated than the Englishmen who remained behind. Since the Puritans stressed the importance of reading more than some of the other colonists, it is also assumed that the level of literacy in New England was higher than that in the other colonies. Yet there has been considerable debate among historians recently on the actual level of literacy in colonial New England.[11]

The most recent analysis of literacy in colonial New England by Kenneth Lockridge uses signatures on wills as a crude index of literacy. His study suggests that there was a significant difference between the literacy of men and women in colonial New England (see Graph Number I). Whereas about sixty percent of men could sign their wills among the early settlers, only about thirty percent of women could do so. Furthermore, there was a steady increase in male and female literacy so that by the end of the colonial period about ninety percent of males and almost fifty percent of females could sign their wills.[12]

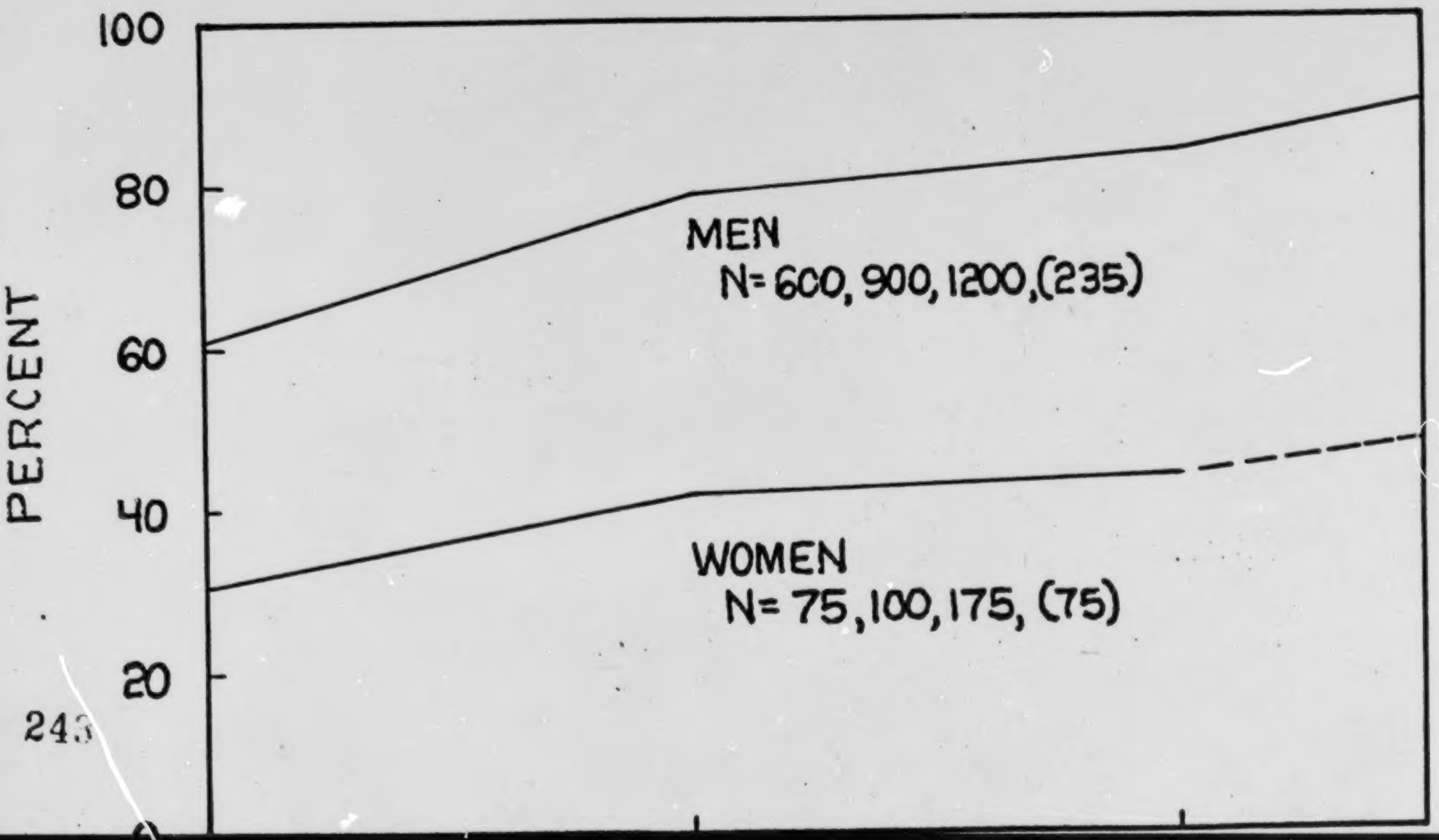
If Lockridge's estimates do represent the actual levels and trends in literacy in colonial New England, they suggest that not everyone in early Massachusetts received a rudimentary education since a significant proportion of the population, especially among females, could not even sign their own names. This was particularly true of the rural population since the literacy rate in Boston was higher for both males and females than in the countryside.

One should also bear in mind that the Puritans stressed the importance of reading rather than writing since the primary goal of educating young children was to prepare them to read the Bible. For example, when Watertown officials admonished parents for not educating their children, they focused only on the ability to read the English language:

> William Priest, John Fisk, and George Lawrence, being warned to a meeting of the Selectmen at John Bigulah's house, they making their appearance and being found defective, were admonished for not learning their children to read the English tongue: were convinced, did acknowledge their neglects, and dis promise amendment.[13]

GRAPH NO. 1

LOCKRIDGE'S ESTIMATE OF THE PERCENTAGE OF SIGNITURES ON WILLS IN NEW ENGLAND IN 1650-70, 1705-15, 1758-63, AND 1787-95



Consequently, though there were large portions of the adult population in colonial New England who could not write, perhaps they were at least able to read. Other scholars have found that the writing skill of a population is usually below the reading ability of that population.[14] Therefore, it is likely that estimates of the inability of New Englanders to sign their names underestimate their ability to read the Bible though the general trend in reading skills probably parallels the increases in the ability to sign wills.[15]

So much for our limited knowledge of the extent of literacy among the colonial populace. Where and when did most children learn to read and write in early Massachusetts? Unfortunately, there is even less information available on these issues than on the extent of literacy. The general impression is that children were taught to read at home or in a private dame school, or by the local minister rather than in a town sponsored school. Most colonial towns did not maintain petty schools, and many of the towns which did provide schools for reading and writing expected entering children to have already acquired the rudiments of reading. Whether most parents taught their own children their ABC's, sent them to a dame school, or to their local minister is not clear since colonial literary materials mention all three alternatives. Though the Puritans expected parents to educate their own children, it is evident that many parents did send their children outside the home for their education. Finally, the relative role of each parent in educating the child within the home has not been resolved. Whereas nineteenth-century Americans stressed the mother's role in childhood education, a larger part of educating children in colonial America seems to have been assigned to the father.[16] For example, the masters of the house (usually the fathers) were expected to catechize the children and servants according to a 1648 law:

> Also that all masters of families do once a week (at the least) catechize their children and servants in the grounds and principles of religion... If any be unable to do so much, that then at least, they procure such children or apprentices to learn some short orthodox catechism without book, that they may be able to answer unto the questions that shall be propounded to them out of such catechisms by their parents or masters or any of the selectmen when they shall call them to a trial of what they have learned in this kind.[17]

Whether the father was also expected to teach the children the rudiments of reading and writing is not clear. But since males were more often literate than females in colonial New England, there was little choice in many households about which parent would instruct the young child.

Colonial Americans did not devote much attention to the age at which their children should learn to read and write. Apparently they assumed that children should learn to read as soon as possible in order to prepare themselves for salvation in the next world. As Cotton Mather put it, "The Children should LEARN TO READ the Holy Scriptures; and this, as Early as may be...."[18]

Childhood meant something very different in colonial America than today. Colonial children were seen as innately stubborn and evil; they therefore needed to be strictly disciplined and controlled at a very early age. Though sinful, children were also treated as more mature and developed individuals than we see our children today. John Demos has aptly summarized the nature of childhood in colonial America:

> Colonial society barely recognized childhood as we know and understand it today. Consider, for example, the matter of dress; in virtually all seventeenth-century

> portraiture, children appear in the same sort of clothing that was normal for adults. In fact, this accords nicely with what we know of other aspects of the child's life. His work, much of his recreation, and his closest personal contacts were encompassed within the world of adults.... In short, from his earliest years he was expected to be--or to try to be--a miniature adult.[19]

This does not mean that colonial Americans did not see childhood as separate from adulthood. In fact, Puritans saw and treated children below the age of six or seven quite differently from older children. Very young children were not expected to be as diligent in their studies and work as older ones. Nevertheless, their conception of children below the age of six or seven saw them as capable of more extensive intellectual development than we see young children today. As a result, it is not surprising to find very young children learning to read or even write at much earlier ages than we ordinarily encounter today. Children often learned to read at ages three and four and some even received training in Latin at ages five and six. Parents encouraged their very young children to learn at such ages and proudly gloated over their early accomplishments.[20]

It is not possible to ascertain with certainty when most young children learned to read in colonial America. Our foray into colonial diaries, letters, and writings is quite limited from a statistical perspective. Yet it is evident that very young children were encouraged to begin reading as soon as possible. For example, John Locke's essay on education was widely read and quoted throughout colonial America.[21] In it, Locke advised parents that children should be taught to read at an early age but that reading should not be forced upon children as a task since it might injure their health and discourage their natural curiosity.

> When he can talk, 'tis time he should begin to learn to read. But as to this, give me leave here to inculcate again what is apt to be forgotten, viz., that great care is to be taken that it be never made as a business to him nor he look on it as a task....I have always had a fancy that learning might be made a play and recreation to children, and that they might be brought to desire to be taught, if it were proposed to them as a thing of honour, credit, delight and recreation or as a reward for doing something else, and if they were never chid or corrected for the neglect of it....Thus children may be cozened into a knowledge of the letters, be taught to read without perceiving it to be anything but a sport, and play themselves into that which others are whipped for.[22]

To summarize, although the relationship between family and school was quite flexible in colonial America, there was a general agreement among Puritans on the importance of education. Initially it was assumed that parents should educate their own children, but the state was willing to intervene to force negligent parents either to teach their children at home or send them to a local school. In addition, the Massachusetts colonists were agreed on the importance of learning to read early since the ability to read the Bible was an essential prerequisite for the salvation of their children and for the survival of their "errand in the wilderness."

II. Education in Early Nineteenth-Century Massachusetts

The relationships among children, parents, and schools in the early nineteenth century were the result of their colonial heritage as well as the new social conditions they encountered in the Commonwealth. While some of their fundamental assumptions about education remained unchanged, others were gradually and subtly altered in response to the changes in that society.

One of the mainstays of colonial education had been the Puritan Church. The church in the seventeenth century insisted that all children be able to read the Bible. As we have seen, although Puritan leaders assumed that the education of young children was to be entrusted to their parents, they were willing to develop schools to assist families in fulfilling their duties. By the early nineteenth century, the relationship between the church and education had changed. In the aftermath of the Great Awakening, there was little unity left among Massachusetts churches, and these divisions affected both the relative importance of the churches within society as well as their particular views on the nature of childhood. Although Massachusetts society was still quite religious in the early decades of the nineteenth century, there was a growing secularization of many facets of that society--including public education. Even the rationale for public schools now included more attention to the need for preserving the political and social order. Thus, the justification for the state commitment to education in the Massachusetts Constitution of 1780 stressed the political rather than the religious benefits of an educated public.[23]

Although all of the churches in Massachusetts could agree on the value of education, they could not agree on the content of that education. The only way that the public schools could avoid endless and bitter sectarian battles was to eliminate any religious teaching within the schools that favored a particular group. Thus, while early public school advocates acknowledged the connection between religion and moral training, they urged teachers to avoid detailed religious instruction within the classroom.[24]

Finally, there was a significant change in the attitude among different church groups on the nature of young children. The early Puritans had stressed that children were innately evil because of Adam's transgressions in the Garden of Eden. Therefore, Puritans expected their young children to be rebellious and sinful from the very beginning. The only proper response for parents was to watch their children very closely and to discipline them at very young ages. By the early nineteenth century, this view of innate sin and infant damnation was already under strong attack by Unitarians such as William Ellery Channing. Increasingly children were viewed as innocent beings that had to be protected and nurtured rather than subdued and disciplined. Though the issue of the child's nature was not easily resolved, even many of the most ardent proponents of infant damnation gradually began to de-emphasize the innate wickedness of very young children. Significantly, both the proponents and opponents of infant damnation increasingly began to view childhood as a very distinct phase of human development that required special attention and training.[25]

Another key change was the great expansion in the number of public and private schools in the Commonwealth. The Puritans had tried to establish a comprehensive school system, but their efforts were largely unsuccessful. Yet the rapid demographic and economic growth of Massachusetts towns in the eighteenth century facilitated the establishment of more schools. By the early nineteenth century, Massachusetts had an extensive, decentralized system of public and private district schools. Mass education in America did not result from urban and industrial development; most children in early New

England attended school well before the area became heavily urbanized and industrialized and before the schools became systematized. Nonetheless, the problems of urbanization, immigration, and industrialization lent further stimulus to the creation of publically funded schools, and reinforced the central purpose of character education. These processes are well illustrated by the charity and infant school movements of early nineteenth-century cities.[26]

With the increased availability of public and private schools, parents now had more options for educating their children. The Massachusetts school law of 1789 required towns or districts with at least fifty families to maintain a primary school and those with at least two hundred families a grammar school.[27] Though there are no comprehensive surveys of Massachusetts education at the turn of the century, it appears that most towns did provide some public or private schooling. From our own examination of scattered school reports as well as other documents, it seems that parents increasingly relied on schools to teach their children to read and write. Children would typically enter school at ages three to five. Then they might enroll in writing or grammar school, at ages six to eight, to be instructed in Latin, Greek, or English languages. In most towns there were no rigid rules on what ages children could or should attend school. The Massachusetts state law of 1789 did insist, however, that children enrolling in grammar school should already be able to read and write. This latter requirement posed a problem in Boston where the town initially financed the grammar schools, but not the primary schools. Critics alleged in the early years of the nineteenth century that many poor children never received an adequate education because their parents could not afford to send them to a private school to learn to read and write in order to qualify for admission to the grammar schools. After several heated political battles, the city of Boston in 1818 finally assumed responsibility for providing primary schools for children ages four to six.[28]

The debate over whether the city of Boston should provide primary schools for young children gives us some insights into the changing relationships between parents, children, and schools in the early nineteenth century. The subcommittee appointed by the Boston School Committee to investigate this matter concluded that public primary schools were not necessary.

> For children under the ages of seven years, it is true, no schools are maintained at the public expense. But experience has proved in past times, and it has been demonstrated by the present inquiry to the satisfaction of the sub-committee, that this class of children with us is not neglected. Perhaps as large proportion of them enjoy the advantages of instruction as would avail themselves of it if schools were maintained in sufficient number by the public treasury. The system of small private schools for pupils of this description, supported by the parents, operates upon them as a tax, which, however, is not very unequal or burdensome.... The sub-committee believe that most parents have some leisure, and that with us few are unequal to the task of teaching the elements of letters. It ought never to be forgotten that the office of instruction belongs to parents, and that to the schoolmaster is delegated a portion only of the parental character and rights. In the retirement of domestic life, parents have opportunities to impart instruction, and to gain an influence over their children which the public teacher does not possess.[29]

Although opponents of public primary schools in Boston argued that parents could and should educate their own children at home, they assumed that in fact most parents would send their children to a school.

Confirmation of this assumption was provided in the subcommittee's survey of young children which suggested that most children ages four to six in Boston were already attending a private school.[30] Thus, by the early nineteenth century most parents in Boston were sending their children to schools to learn to read and write rather than trying to teach them at home. Although the colonial notion that parents should teach their own children had not disappeared, very few parents any longer fully educated their own children in the rudiments of literacy. The debate in Boston was really over who should finance the schools rather than over the usefulness or desirability of primary schools for young children.

Children of all ages were grouped together in most classrooms in the early nineteenth century because school districts often had only one-room schools. Very young children were learning the alphabet while older ones progressed through advanced readers. In larger communities such as Boston children were roughly subdivided by age in the primary and grammar schools. Children ages four to six were supposed to enroll in primary schools while those who were seven and above (and could read and write) were to be in the grammar schools. We can get an idea of the type of training provided young children in the Boston primary schools by the manner in which they were subdivided into four classes.

> ...the pupils in each of the schools shall be arranged into four classes, viz.: Those who read in the Testament shall be in the First Class; those in easy reading in the Second Class; those who spell in two or more syllables, in the Third Class; those learning their letters and monosyllables, in the Fourth Class; and that the books be the same in every school, for each pupil hereafter entering.[31]

In other words, it was now assumed that most children would learn their alphabet in the schools rather than at home. Children ages four to six progressed through the primary classes by demonstrating their proficiency in these skills rather than on the basis of their ages. It was common to have students at very different ages performing at the same level of skill in Massachusetts schools in the early nineteenth century because of the variations in the age at school entering and the irregularity of school attendance.

The creation of public primary schools in Boston attracted a larger proportion of school children to public rather than to private education. Whereas 61.8 percent of all children in school in 1817 attended a private institution, that figure had dropped to 32.5 percent by 1826. Nevertheless, private schools were still an important factor in educating young children. Of the children ages four to six in school, 22.4 percent of the males and 31.4 percent of the females were in private schools.[32]

One important difference between the public and private schools for young children in Boston was that the public schools categorically refused to accept any children younger than four years old while the private schools were willing to admit them. In 1826 about five percent of all children under four in Boston were enrolled in private schools (or approximately twenty percent of the three year old children were in a private school).[33] Since most other Massachusetts towns did not bar children under four years old from entering their public schools, it is likely that a sizable proportion of three year olds were enrolled in school. Thus, the idea that children could and should be educated at very young ages persisted in early nineteenth-century Massachusetts. Our scant evidence suggests, however, that increasingly the education of young children in the rudiments of literacy took place in a school rather than in the home.

Though some three year olds were being sent to private and public schools in the first two decades of the nineteenth century, it was not considered a particularly commendable practice since the attendance rates of very young children were usually very irregular. But the idea of trying to educate very young children received a great boost in the late 1820's with the introduction and spread of infant schools in America.[34] Infant schools had been first developed in Europe to educate poor children, but the idea of these schools quickly attracted notice in the United States. The first infant schools in Massachusetts were opened in Boston in 1828 and were intended to educate poor children between the ages of eighteen months and the time they could legally enter the public schools. Though there was some skepticism about the value of these new institutions, they were warmly greeted by many parents and educators. As one Boston newspaper responded to a demonstration by children in a local infant school in 1829:

> Infants, taken from the most unfavorable situation in which they are ever placed, from the abodes of poverty and vice, are capable of learning at least a hundred times as much, a hundred times as well, and of being a hundred times as happy, by the system adopted in infant schools, as by that which prevails in the common schools throughout the country. The conclusion most interesting to every friend of education is, that the infant school system can be extended through every department of the popular education. And that in any school district where there is interest and liberality enough to raise Ten Dollars to procure apparatus, a beginning can be made the present season.[35]

Today we are all familiar with the fact that programs designed specifically to give disadvantaged children a headstart are often adopted by middle and upper class parents for their own children if the programs appear to be successful. Similarly, although infant schools in Boston were originally opened to assist disadvantaged children, the rest of the population were eager to provide the same opportunities for their own children once it was demonstrated that these infant schools were useful. Thus, the Ladies' Magazine in February 1829 reported that:

> The interesting subject of Infant Schools is becoming more and more fashionable.... We have been told that it is now in contemplation, to open a school for the infants of others besides the poor. If such course be not soon adopted, at the age for entering primary schools those poor children will assuredly be the richest scholars. And why should a plan which promises so many advantages, independent of merely relieving the mother from her charge, be confined to children of the indigent?[36]

The amazing thing about the infant school movement in America is how rapidly communities adopted this new innovation. Rather than encountering the hostility that most innovations in education face today, infant schools were welcomed not only in urban areas such as Boston and Worcester, but also in rural communities such as Concord. There are several possible explanations for the rapid spread of infant schools in Massachusetts. The infant schools were strongly endorsed by educational reformers like William Russell. As editor of the influential Journal of American Education, he actively promoted the establishment of infant schools in Massachusetts. In addition, the movement was endorsed in a number of popular journals such as the Ladies' Magazine, as well as in many local newspapers. Another reason for the rapid spread of infant schools is that their establishment required very little money or expertise. Anyone could easily purchase one of the many recently published infant school manuals and set up their own school with no additional training and little expenditure of capital for equipment. In part this reflects the fact that in general private schools in the early nineteenth century were easy to create. A person simply declared himself to be a teacher, acquired some students, and established a "school" either in their home or rented space in a nearby building. Because private schools were not regulated or licensed by the state, it was very easy for someone to create a new school on short notice.

The infant school movement also benefited by the general climate for reform in Massachusetts in the early nineteenth century. It was a period of great optimism that society could eliminate problems such as crime and poverty through reform efforts such as the temperance movement and educational reform. The supporters of infant education in Boston were also able to draw upon their experiences in the Sunday school movement to provide them with the expertise necessary to create new institutions. Furthermore, they were helped in all of these efforts by the willingness of the churches to contribute support to new efforts to aid the impoverished classes.[37]

One might expect that the existing public school teachers and administrators would have been hostile to a new idea like infant education. But few teachers had taught very long or planned to make teaching their career. Therefore, there was relatively little entrenched opposition to the idea of infant education among teachers since most of them were quite new to teaching themselves.[38] Furthermore, most schools were operated very casually without an elaborate set of procedures or bureaucracy. Only in the city of Boston do we find a centralized school system under the control of a School Committee. It is interesting to note that the Boston Primary School Committee did oppose the introduction of infant education in the public schools--mainly because the manner in which children were being taught in the infant schools directly challenged the more traditional methods employed in the Boston schools. The Boston primary schools taught young children only reading and writing, and the School Committee constantly resisted efforts to expand this basic curriculum. Furthermore, the Committee was reluctant to adopt a new program like infant education which might increase the overall tax burden of the city by attracting more students to the classrooms. Thus, infant schools could be seen to clash with the well-established pattern of educating young children in the Boston primary school system.[39] But in most Massachusetts towns, the curriculum as well as the control of schools was much more casual and open to innovations.

Finally, one of the major reasons for the quick adoption of infant schools in Massachusetts was that the idea of educating very young children in schools had already been accepted by many parents. We have seen that in the colonial period it was often recommended that children be taught to read as soon as they could talk and that some three year olds in the early nineteenth century were already attending school even before the infant education movement had reached America. Therefore, parents were willing to send their children to the new infant schools, which promised to teach their children even more effectively than they could be educated either in the existing schools or in their own homes.

Although infant education stressed the importance of educating very young children, the manner in which children were taught was different from traditional methods of instructing young children. The advocates of infant education saw this stage of childhood as being distinct from later phases of development. Because children were not fully developed intellectually, emotionally, or physically, it was important that they not be taught in the same way as older children. The proper education of younger children demanded that as much attention be devoted to their physical and moral development as to their intellectual growth.

The European advocates of infant schools were split on the issue of how much intellectual activity young children should experience. Some leaders of the infant education movement, such as Samuel Wilderspin, encouraged the schools to teach very young children how to read. Others, such as Robert Owen, felt that books should be entirely excluded from the infant schools. However, even Owen was forced to compromise his position on reading because of the pressure from parents. His son noted in 1823 that:

> It has been deemed necessary, in order to meet the wishes of the parents, to commence teaching the children the elements of reading at a very early age, but it is intended that this mode should ultimately be superseded, at least until the age of seven or eight, by a regular course of Natural History, Geography, Ancient and Modern History, Chemistry, Astronomy, etc., on the principle that it is following the plan prescribed by Nature to give a child such particulars as he can easily

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> be made to understand concerning the nature and properties of the different objects around him before we proceed to teach him the artificial signs which have been adopted to represent these objects.[40]

Unfortunately, the manner in which infant schools demonstrated their achievements to the general public in Massachusetts overemphasized the children's intellectual achievements and encouraged parents to interpret infant schools simply as an improved form of schooling rather than as something quite apart from traditional educational practices. As we shall see, the view that infant schools were mainly an effort to teach children to read and write at very early ages eventually contributed to their demise when it was no longer regarded as advantageous to have very young children learn to read and write.[41]

It is impossible to gauge very accurately the full impact of the infant school movement on the education of young children in Massachusetts. Much depends on our estimate of the extent of children under four in schools in the first two decades of the nineteenth century before the arrival of the infant school movement to America. Yet very little systematic information on the pattern of school attendance of very young children has been preserved. Our tentative conclusion is that children under four were being educated in early nineteenth-century Massachusetts schools, but that the infant school movement significantly increased the popularity of this practice, not just in special infant schools, but in most public schools as well. Our detailed analysis of school registers for Concord and Worcester public schools in the 1830's shows many children ages two and three enrolled in the schools in these communities.[42] Furthermore, though the infant school movement in Massachusetts was in rapid decline by 1840, at least ten percent of children under four were still enrolled in the public schools (or approximately forty percent of three year olds).[43]

Even more important than the possible increase in the number of very young children attending schools, the infant school movement reinforced the growing belief in early nineteenth-century America that early childhood was a special stage of development that required increased attention and care from both parents and schools. It drew attention to the importance of early child care by stressing the long-term implications of existing childrearing practices. It encouraged parents and the schools to educate younger children by emphasizing the flexibility of their future development. Yet, at the same time, the infant school movement somewhat inadvertently reinforced the public's belief in the possibility and desirability of teaching very young children intellectual skills such as reciting the alphabet or even reading. When the reaction against early intellectual education mounted in the third and fourth decades of the nineteenth century, the infant school movement in Massachusetts was one of the first casualties.

III. Reactions Against the Enrollment of Young Children in School

During the colonial and early national periods, it was quite normal for very young children to be taught their alphabet and the rudiments of reading at a very early age. Although the Puritans expected early childhood education to occur in the home, by the early nineteenth century most young children received their education in a public or private school. The emphasis on early education in schools received additional impetus from the infant school movement in America during the 1820's and 1830's.

While few parents or educators in the colonial period questioned the value or propriety of teaching children at very early ages, during the first half of the nineteenth century opposition to such practices developed. The sources of this opposition were quite varied, but at least three major considerations were involved: (1) the growing emphasis on childhood education at home, reinforced by increasing stress on mothers' role in the home, (2) the stress on the need for gradual and balanced child development, including the fear of insanity caused by excessive intellectual activity at a very young age, and (3) the emerging bureaucratic structure of public schooling.

In colonial Massachusetts the role of parents in the education of their children had been stressed. But by the early nineteenth century, most parents in fact had relegated the education of their children to local schools. In the 1820's and 1830's, however, there was a strong revival of the idea that young children should be educated at home. Although there was still considerable disagreement on the innocence or depravity of young children at birth, almost everyone agreed on the importance of early childhood experiences. Because of this emphasis on early childhood development, there was increasing interest in providing the proper home environment for young children.

Accompanying the emphasis on early child development within the home was the increasing focus on the role of mothers in childhood education. The great outpouring of domestic literature in the 1820's and 1830's in the United States encouraged mothers to take a more active role in the training of their children. Childrearing manuals provided mothers with extensive advice on how to raise their children in an increasingly complex society where traditional values and practices were being eroded by rapid urban and industrial growth. Though it is unlikely that the family was actually disintegrating during the 1820's and 1830's, many of the writers of this domestic literature assumed that only more effective childrearing efforts in the home could prevent the further moral and spiritual deterioration of American society.[44]

The renewed interest in home education placed the supporters of the infant education movement in an ambiguous and uncomfortable position. At first, the advocates of infant education argued that their schools were mainly intended as a substitute family for homeless poor children. As the number of infant schools expanded and middle-class parents began to send their own children to these new institutions, the supporters of infant schools then stressed their similarity to the home and how these schools complemented the efforts of the mother. Yet the short-lived infant school movement in Massachusetts was never really clear about the exact relationship among parents, children, and infant schools since many of their middle-class proponents also believed in the primacy and importance of parents educating their own children. When hostility developed against early childhood education in the schools in the 1830's, many of these middle-class parents abandoned their support of infant schools in favor of more extensive education of children within the home.[45]

Another major factor that contributed to the growing reluctance of parents and educators to send very young children to school was the growing emphasis on the necessity for the gradual and balanced development of children. Though the Puritans regarded young children as different from older ones, they saw very young children as capable of intellectual activities at a much earlier age than later generations. By the late eighteenth and early nineteenth centuries, educators began to stress that child development should be more gradual and concerned with physical as well as intellectual growth.

One of the foremost education theorists of the early nineteenth century was Johann Heinrich Pestalozzi. The influence of his writings and teachings spread rapidly throughout Europe and to the United States.[46] Pestalozzi argued that a child's development must not be unnaturally hurried by either parents or schools.

> All instruction of man is then only the Art of helping Nature to develop in her own way; and this Art rests essentially on the relation and harmony between the impressions received by the child and the exact degree of his developed powers. It is also necessary, in the impressions that are brought to the child by instruction, that there should be sequence, so that beginning and progress should keep pace with the beginning and progress of the powers to be developed in the child. . . .[47]

Pestalozzi stressed the importance of the physical development of children; a child's intellect should not be over-extended before his mind and body has been fully developed physically. This viewpoint was quickly adopted and popularized in America in the 1830's by William Woodbridge who succeeded Russell as the editor of the American Journal of Education. Woodbridge felt that training of young children should begin early, but that their education should reflect their stage of physical and intellectual development. Efforts to produce child prodigies would only result in the unnatural, asymmetrical development of the child that might produce permanent damage.[48] Thus, while parents and educators in colonial America had praised the intellectual achievements of very young children, by 1830 many writers began to emphasize the importance of more gradual, balanced development. As early as 1827 the American Journal of Education was advising "misguided" parents not to teach infants their letters, lest they suffer that "fatal languor arising from premature application." In 1831 the American Annals of Education ran a series on Fellenberg, in which it was emphasized that "physical education occupies a most important place in the system of Hofroyl. . . . It is justly regarded as the base of success in other branches of education." In 1834 Dr. J. V. C. Smith cited other European examples to the same effect. New England schools that drill children of two, three, and four years of age do that which is "diametrically opposed to the clearest indications of nature." He continued:

> Do not urge on the mind for the present. Take care of the body....Adopt the plan of the Infant Asylum of Geneva and some others in Europe, which aim chiefly at the physical health and enjoyment of the pupils, and give them only as much intellectual occupation as their feeble minds and immature bodies can endure.[49]

A related factor that contributed to the disillusionment with early childhood education was the growing belief that premature intellectual development might cause insanity. Any educational efforts that over-stimulated young minds beyond their physical capabilities were considered dangerous. This concept was most clearly and forcefully stated by a physician, Amariah Brigham, in

1832 in his popular book, Remarks on the Influence of Mental Excitement Upon Health:

> Many physicians of great experience are of the opinion, that efforts to develope the minds of young children are very frequently injurious; and from instances of disease in children which I have witnessed, I am forced to believe that the danger is indeed great, and that very often in attempting to call forth and cultivate the intellectual faculties of children before they are six or seven years of age, serious and lasting injury has been done both to the body and the mind....
>
> I beseech parents, therefore, to pause before they attempt to make prodigies of their own children. Though they may not destroy them by the measures they adopt to effect this purpose, yet they will surely enfeeble their bodies, and greatly dispose them to nervous affections. Early mental excitement will serve only to bring forth beautiful, but premature flowers, which are destined soon to wither away, without producing fruit.[50]

Brigham's book had a large impact on attitudes toward early childhood education in America. It was reviewed very favorably in popular journals such as the American Annals of Education, the Christian Examiner and General Reviewer, and the Ladies' Magazine. Many shared Brigham's fears. An article reprinted from the London Christian Observor labelled intellectual precocity "a disease," which could lead to "future imbecility or premature old age." Samuel Woodward, warning of the dangers of confining children under the age of eight in school for more than one hour at a time, argued that "intensity" might lead to precocity, which was a "morbid condition" of the brain that might lead to "epilepsy, insanity or imbecility."[51] Despite the protests of the supporters of infant schools that their institutions did not really over-emphasize the intellectual development of the young child, there was increased public suspicion and hostility toward the infant schools. Many of the middle-class reformers who had financed the infant schools now withdrew their support. As a result, infant schools in Massachusetts found it more and more difficult to survive financially.[52]

The hostility toward early education also became increasingly evident in the domestic literature of the 1830's and 1840's. Previous advocates of early childhood education such as Lydia Sigourney now reversed themselves: "I once admired precosity, and viewed it as the breath of Deity, quickening to ripe and rare excellence. But I have since learned to fear it."[53] Similarly, Heman Humphrey in his popular advice book in 1840 observed that:

> ...it is obvious how difficult a task it must be, to persuade parents to let their sprightly little darling alone, till the rain and the sunshine have opened the bud and prepared the way for mental culture. Had some older friend said to us, some four and twenty years ago, when we were arranging our lettered blocks, and showing our Reuben or Simeon, that h-a-t spells hat, "you are quite too early for the advantage and safety of your child, you had better leave the little fellow to his cob-houses and his antics till nature has had time to do her part," I dare say we should have gone on, without giving much heed to the advice,...But the common idea, that if you can teach an infant to read with considerable ease...in its third or fourth year, it is...so much clear gain, is extremely fallacious.[54]

Humphrey formalized this new concept of early childhood by positing three stages prior to adulthood: infancy (from birth to age four or five), childhood (to age ten or eleven), and youth (to age seventeen, eighteen or nineteen). During infancy, he argued, intellectual training is unsafe; infants should play while parents guard against "hurtful extraneous influences."[55]

Educators increasingly began to warn parents of the harmful physical as well as mental effects of sending their children to school too early. The local school committee in Weymouth protested against early school attendance in 1840:

> Children under four years of age, should not be sent to school;... If children under four years of age, are sent to school in order to give temporary relief to parents, it should be remembered that no teacher, male or female, is authorized by the 'statute book' to convert his appropriate vocation into that of a nurse. But if such children (sixty-six of whom have been in our schools the last year) are required to attend school that their minds may be tasked with the discipline of study, it should be understood that this is generally injurious to the child's mental and physical frame.[56]

Similarly, the local school committee in Sandisfield that same year objected to the practice of sending children to school when they are only two or three years old:

> Parents, oftentimes, send their children to school before it can be of any essential benefit to them. In such cases, an injury is inflicted upon both the child and the school. The child is injured by being confined for several hours, upon the hard benches and the impure air of the house, --and the school is injured, by having a considerable portion of the instructor's time occupied in endeavoring to teach, and especially to govern, such children.... The proper order is, to begin with the education of the body, and then proceed to that of the mind. The practice of sending children, two or three years old, to school, to 'get them out of the way,' cannot be too much deprecated. Every teacher, it should be remembered, is employed to give instruction, not to act the part of a nurse.[57]

At first, school officials concentrated only on excluding children under four from the public schools, but by the decade of the 1850's educators did not even want four or five year olds to attend school. Thus, Barnas Sears, Secretary of the Massachusetts Board of Education, wrote in his annual report for 1851-52 that:

> Education in its widest sense commences as soon as one is born. From the time till the school-going age, which with most children does not properly begin till after they are six years old, the freedom and activity natural to childhood may better be accorded to it than denied. The physical constitution, whose vigor is so intimately connected with that of the mind, and which comes first in the order of nature, requires a great amount of unrestricted exercise in the open air. The confinement of the school-room not only preys upon the animal life and spirits of the child, but interrupts that inquisitive notice of external objects to which nature prompts it.[58]

Thus, we have witnessed a major change in the first half of the nineteenth century in the age at which educators, physicians, and authors of child care manuals thought children should be engaged in such intellectual activities as reading as well as the age at which they should enter schools. The decade of the 1830's stands out as the major turning point. While the early intellectual education of children was generally seen as a positive virtue in the United States before the 1830's, most authorities regarded it as a questionable activity thereafter. Because the third major reason for the exclusion of young children from schools--the increasingly bureaucratic structure of schools--became more evident after mid-century, we postpone discussion of this factor until after we have assessed parents' reactions to the educators' initial shift of opinion.

IV. Patterns of Enrollment of Young Children, 1840-1900

By the 1830's and 1840's educators strongly urged parents not to allow their children to engage in strenuous intellectual activities at an early age and not to send them to school until they were five or six. But did parents actually heed the warnings of these authorities? One of the major limitations of using historical materials such as child care manuals or reports of school superintendents is that they only provide information on the recommendations of these specialists, not on the actual practices of parents. Since there are no extensive historical surveys of the manner in which parents raised their children in nineteenth-century America, historians have not been able to determine how closely parents conformed to the advice literature on child care.[59]

In the case of school attendance, however, we are fortunate to have behavioral evidence to compare with our literary sources. We investigated the extent of school attendance by young children in Massachusetts from 1840 to 1900 to see whether the dire warnings against sending young children to school were effective. This provided us an opportunity to see if changes in the pattern of school attendance of young children coincided with the growing opposition among child care specialists against the education of very young children.

In assessing the causes of school attendance by young children, we must first decide, if possible, the extent to which decisions were made by the children, their parents, or the schools. There is no simple answer to this question. The preferences of children toward school may have had some impact on their actual enrollment in those institutions, but their role in the decision to enter school at an early age was probably quite minimal. Parents were probably the major factor in deciding whether and when their youngsters should be sent to school. Some school systems, such as that in Boston, did not permit children under four or five to enroll in public schools. However, our impression, based on reading through local school reports as well as examining the reported number of children under four or five in the public schools, is that most public schools did not systematically regulate age of entry in the 1830's and 1840's, although they tried to influence parents informally on the age at which children should be sent to school.[60]

The Massachusetts Board of Education required towns to submit annual statistics on the number of children under four years old attending public schools; after 1848-49 the school returns were revised to ascertain the number of children under five years old in public schools, reflecting the rising expected age of entry. The answers to this question underestimate the extent of schooling for young children because information was not obtained from the private schools on this matter. The returns for the public schools, however, probably provide an accurate approximation of the state-wide trend in the school enrollment of very young children during these years. Using population estimates based on the federal and state censuses, we estimated the percentage of children under four (or five) years old in public schools from 1840 to 1900 (see Graph 2).[61]

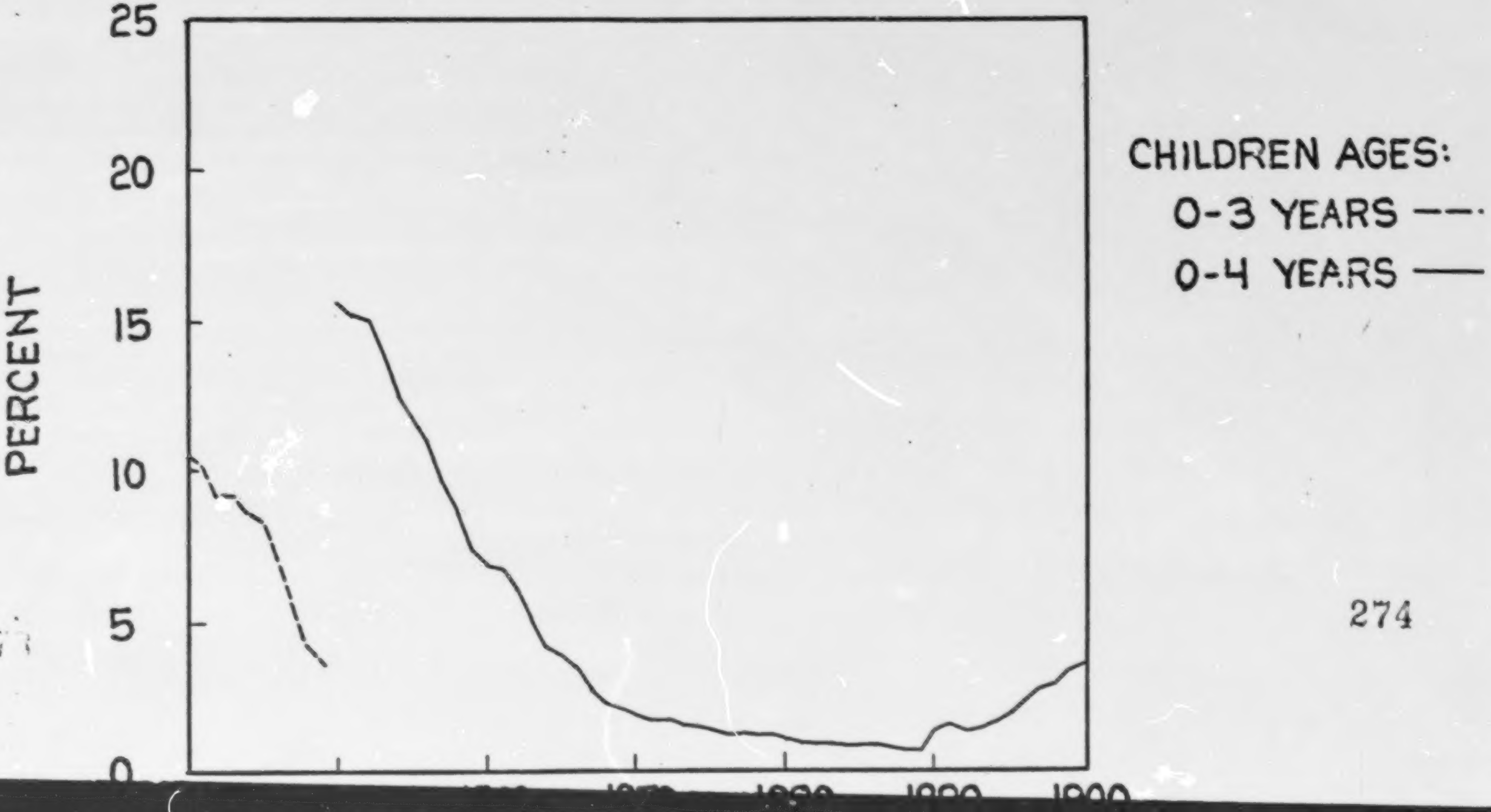
There is a steady decline in the percentage of children under four years old in public school from 1839-40 to 1848-49, the last year for which information on the number of children under four was obtained. The percentage of children under five in public school declined from 15.6 percent in 1849-50 to .6 percent in 1888-89. Then there was a gradual rise in the percentage of children under five in public school to 3.5 percent in 1899-1900--in large part due to the development of kindergartens for young children in Massachusetts after the Civil War.

The decline in the percentage of young children attending school does coincide with the increasing opposition among educators, physicians, and authors of child care manuals to the education of very young children. This supports the notion that parents and local schools did respond to the warnings against early childhood education. Yet it is also important to observe how gradual the shift in the pattern of school attendance was during these years. Even though Amariah Brigham and others condemned the practice of sending young children to school in the early 1830's, almost forty percent of three year old children in 1839-40 were still enrolled in public schools. In other words, although some parents were influenced by the warnings against early childhood education, most parents were very slow to remove their young children from the public schools.[62]

No systematic information is available on the percentage of Massachusetts towns that actually prohibited young children from enrolling in the public schools, but we can calculate the percentage of towns that had no children under four in their public schools. This does not imply that children under four were legally barred from entering school in all of those towns, but it establishes the maximum percentage of towns in which there was effective regulation of minimum entry age. In 1840-41, only 6.8 percent of Massachusetts towns did not have any children under four in public school while in 1847-48 that figure had risen to 13.4 percent. In other words, most Massachusetts towns in the 1840's still allowed children under four to attend their public schools. To see how much of the decline in the percentage of children under four in public schools might have been the result of changes in the number of towns which prohibited very young children from attending school, we calculated the decrease in the absolute

GRAPH NO. 2

PERCENTAGE OF YOUNG CHILDREN IN PUBLIC SCHOOLS IN MASSACHUSETTS, 1840-1900



number of children under four in public schools from 1840-41 to 1847-48. Approximately eighty percent of that decline occurred in towns which still permitted children under four to be in public schools in 1847-48. Thus, it appears that until mid-century most Massachusetts parents decided when they should start sending their young children to the public schools.

Despite the consensus among educators that early childhood education was harmful, most local school committees were reluctant to compel parents to keep their children at home. Similarly, although Barnas Sears strongly condemned sending children to school at an early age, he did not try to have the state pass a law to halt this practice.[63] When localities did pass rules about minimum entry age, parents sometimes ignored them. The 1841 school report for Palmer, Massachusetts, mentions that the previous year the town meeting had voted to exclude children under four from school, yet the usual number attended, "thus," said the School Committee, "confirming our opinion at that time expressed, that the vote was wholly inexpedient."[64] Thus, one of the major reasons that the decline in school attendance of young children in Massachusetts was gradual and lagged behind scientific opinion is that school officials were reluctant to force parents to change their traditional childrearing practices by prohibiting young children from entering the public schools. A further reason why the state and most towns did not enact minimum ages for school attendance is that the fear of insanity due to early childhood education was never sufficiently strong to warrant more forceful action than simply warning the parents of the potential dangers. Even though educators, physicians, and child care specialists agreed that early education was harmful to the child, they did not see the problem as sufficiently dangerous to require state intervention. Physicians warned parents about the dangers of overeducating their young children, but it was not the major focus of their attention.[65] In fact, very few cases of insanity in ante-bellum Massachusetts were actually attributed to this factor.[66]

Furthermore, it is interesting to note that when school officials condemned early childhood education, they focused almost as much on the disruption and inconvenience it caused to the teachers as on the potential injury to the children. Throughout the local school reports one finds complaints about the irregular attendance of young children, as well as their inability to sit still for long periods of time. This brings us to the third major cause of the ultimate rise in school entry age: the increasing bureaucratization of schools and their increasing functional and structural differentiation from the family. By mid-century schools in the larger towns had adopted the features of age-grading and standardization that reformers deemed best suited both to character formation and to efficient cognitive instruction, and these practices were being urged on the smaller towns. Children under five or six, who in the past had toddled along to school with older siblings, simply did not "fit" this rationalized structure. The frustration of local committees over the persistent attendance of young children is exemplified by the Chelmsford town report of 1858:

> So far as our knowledge extends, physicians and practical educators who have expressed an opinion, have united in condemning the practice of confining

> very young children to the school-room. . . . Sending children to the public schools under five years of age is pernicious, especially in places where schools are continued through a large portion of the year. Besides the injury to the young child, a very serious evil results to the schools from admitting children who are sent at an age so tender that no motive can exist for it on the part of the parent, except the desire to be relieved from a little care at home.

Complaining that one of their district primary schools had been "particularly annoyed by infantile pupils," the Committee decreed that a five-year-old entry age would be strictly enforced in that district the following year.[67] The same year George Boutwell, Sears' successor as Secretary of the state Board of Education, discussed age of entry in his annual report, recommending age seven or eight as appropriate for children from "proper" homes and age five for those "not blessed with suitable training at home." The Stoneham school committee complained in 1858 that parents "cast off their children" by sending them to school before the age of five. Similarly, the Springfield School Committee reported that forty children under five had been admitted despite a rule to the contrary. Claiming that parents merely wanted the schools to take care of their children, the Committee urged that the town raised the limit to age six or seven. Such local rules became more common in the 1870's. In Salem, the minimum age of entry was five, and in 1873 Marblehead increased its minimum age of entry from five to six, a rule approvingly cited in the state Board of Education report for that year.[68]

Very young children were inconvenient and unmanageable in the eyes of public school officials devoted to age grading, efficiency, and the inculcation of habits of silence, industry, and deference.

These goals reinforced earlier theories about the appropriate role of mothers in early domestic education and the dangers to health and sanity from early school training. By 1880 these factors had led most towns to prevent by regulation the attendance of young children at school. The persistent tension between the custodial concerns of parents and the bureaucratic concerns of the schools, however, is apparent in a discussion about the appropriate length of the school day in the Lynn school report of 1880. The report quotes Dr. D. F. Lincoln, who had argued in the previous year's state education report that two or three hours of school each day should be the maximum for children under seven years old:

> The arrangement by which these young people are kept in school the same number of hours as those of seventeen, is absurd from every point of view except one. That one is, however, the one taken by a majority of parents, who consider that they pay to have their children taken out of their way for a given number of hours, and are annoyed by their presence at home.[69]

The Lynn school officials would have liked to send their primary school children home after part of the day, but they agreed with Dr. Lincoln that "it would not suit the purpose of parents who wish to have their children cared for through the greater portion of the day."[69]

The differentiation of the family and the school had not solved the problem of divergent aims of the schools' governors and the schools' clients. After a 50-year campaign by educators against early entrance, many parents acquiesced only reluctantly. They were interested, presumably, in their young children's intellectual education, but also, apparently, in getting them out of the home, which for many weighed more heavily than educators' arguments about the dire effects of early schooling and the mother's crucial role in early childhood education. When persuasion did not work, educational officials turned to regulation. While they moved toward compulsory attendance for children of the appropriate ages, they also implemented compulsory nonattendance for those deemed unsuitable.

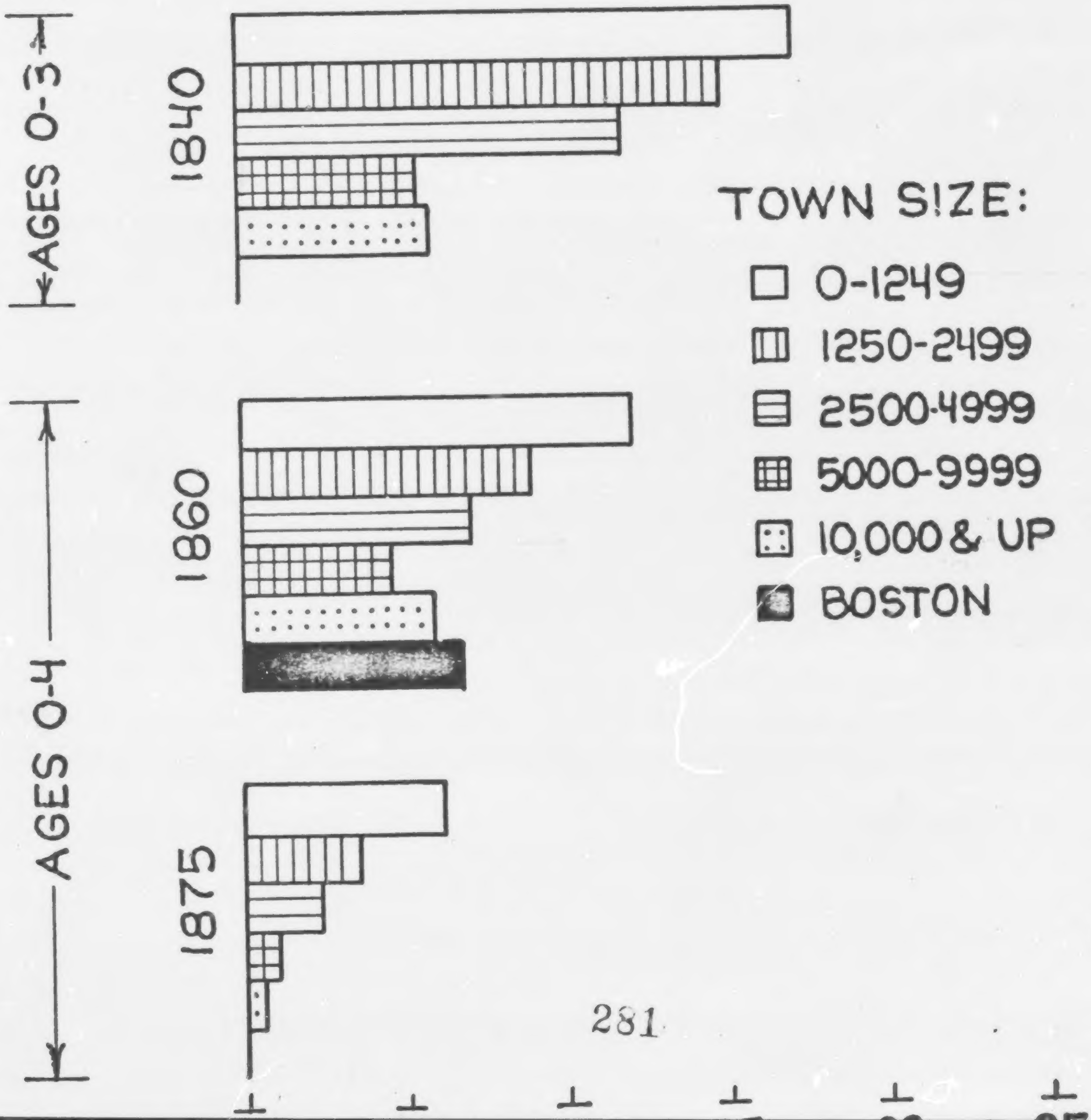
We have concentrated above on the state-wide trends in the percentage of children under four or five years of age in public schools in Massachusetts from 1840 to 1900. Now we shall consider whether there were significant variations in the patterns of early school enrollment among the towns at a given time. For 1840, 1860, and 1875 we computed the percentage of young children attending public schools for each town. We subdivided the towns into six groups according to their population size in those years and averaged for each of those subdivisions the rates of school attendance of young children in those towns (see ~~Chart~~ Graph No. 3). Thus, in 1840 the mean of the percentage of children under four in public schools in towns with populations under 1250 inhabitants was 17.2 percent while that of towns with 1250 to 2500 persons was 15.0 percent.[70]

Generally, the smaller communities in all three years had a higher percentage of young children in public schools. Children under four or five years of age who were living in towns with less than 1250 inhabitants were more likely to go to public school in 1840, 1860, and 1875 than their counterparts in the larger communities. Furthermore, if we compare the rates of public school attendance of children under five years old in 1860 and 1875, there was a significant decrease in each of the subdivisions. Thus, though there are systematic variations among these groups of towns in the pattern of early school attendance, they all contributed to the general decline in the percentage of children under four or five in Massachusetts public schools from 1840 to 1875.

To investigate the determinants of the school enrollment of young children in more detail, we ran multiple regressions for 1840, 1860, and 1875 using the percentage of children under four (1840) or under five (1860 and 1875) in a town as our dependent variable, with six independent variables. Although we tried a number of different independent variables in our preliminary analyses, our final roster was selected because of its conceptual usefulness as well as the availability of comparable data for each of the three years. Two measures of urban development were used--the total population of each town and the number of acres of farmland per capita. The total population of an area was used as an index of the scale effects of population size within a local governmental unit while the number of acres of farmland is a rough approximation of density.[71] As measures of the economic development of these communities, we included indices of the proportion of the population engaged in commerce or manufacturing as well as the taxable resources in each town.[72] Finally, we used the pauper expenses per capita in each town as a possible measure of the extent to which different communities were burdened (and hence concerned) with providing public resources for the poor. We wanted to test whether communities which had a high burden of poverty would be more likely to encourage young children to enroll in public schools as a means of reducing poverty in the future (for a list of the variables used in each

GRAPH NO. 3

PERCENTAGE OF YOUNG CHILDREN IN PUBLIC SCHOOLS IN MASSACHUSETTS IN 1840, 1860, AND 1875 BY TOWN SIZE



of these analyses, see Appendix A, Tables VI-3, VI-7, and VI-11.

The means of the percentage of young children enrolled in public schools in these towns in 1840, 1860, and 1875 were 14.66 percent, 8.90 percent, and 3.74 percent respectively (see Appendix A, Table numbers VI-4, 8, and 11 for the means and standard deviations for the variables used in the regression runs). The variations in the percentage of young children attending public schools among the towns were the greatest in 1840 and 1875 and the smallest in 1860.

At the level of simple correlations, there was no strong relationship between the percentage of children under four in public school and any of the independent variables in 1840. In 1860 and 1875, there were stronger relationships between the percentage of children under five in public school and the socio-economic characteristics of those towns (see Appendix A, Table numbers VI-5,9, and 13 for the correlation matrices for each of the regression runs). The strongest simple correlation in 1860 and 1875 was with the number of acres of farmland per capita (.519 in 1860 and .474 in 1875).

The results of our regression runs for 1840, 1860, and 1875 suggest that the six independent variables were much more successful in accounting for the differences in school attendance in 1860 and 1875 than in 1840 (the adjusted R^2 for 1840 was .090 while those for 1860 and 1875 were .278 and .358). For 1860 and 1875, our data permitted an expansion of the number and type of independent variables used in our analysis in order to see whether the addition of other factors would alter the results for those years. When we added the percentage of the population foreign-born and an index of religious participation to the roster of independent variables in 1860, there was only a slight increase in the adjusted R^2 and no significant changes in the direction or strength of the beta weights. Similarly, when we added the percentage of population foreign-born, the percentage of children ages 10-14 working, and the percentage of manufacturing workers who were female to our independent variables in 1875, there was only a slight increase in the adjusted R^2 and no significant changes in the direction or strength of the beta weights.

When we examine the direction and the strength of the beta weights for 1840, 1860, and 1875, we find a complex situation without any single, simple pattern emerging (see Appendix A, Table numbers VI-6, 10, and 14 for the regression coefficients and beta weights for those years). Generally, the total population of the community was a weak predictor of the public school attendance of young children and it was negative in 1840 and 1875, but positive in 1860. The number of acres of farmland per capita was positively related to the likelihood of children enrolling in public schools in 1840, 1860, and 1875, but only in 1860 was it a very strong predictor. Our index of the commercial development of the community was always negatively related to public school attendance of young children and it was particularly strong in 1840 and 1875. The index of manufacturing was negatively related to public school enrollment of young children in 1840 and 1875, but positively related in 1860. Only in 1875 was the index of manufacturing a strong predictor. Our measure of taxable wealth was positively related to public school attendance of young children in 1840 and 1860, but negatively related in 1875. The per capita valuation of the towns was not a strong predictor of school attendance in any of these years. Finally, the per capita expenditures on paupers was positively related to school attendance in 1840 and 1875, but negatively related in 1860. Only in 1840 was the extent of expenditures on paupers an important predictor of the school attendance of young children.

The results of our regression analysis of the determinants of public school attendance of young children among Massachusetts towns in 1840, 1860, and 1875 suggest considerable complexity. Generally, young children were more likely to attend public schools in rural, agricultural communities than in the larger, denser towns. This may reflect the fact that school committees and teachers in urban areas were more likely to exert pressure on parents to keep their young children at home. Perhaps both parents and school officials in the larger towns were more apt to be aware of and respond to the recommendations of educators, physicians, and authors of child care manuals against early childhood education than their rural counterparts. Or, it may simply indicate that it was easier and more reasonable to send young children to the relatively informal one-room country schools.

Similarly, it appears that young children were less likely to attend public schools in communities which were more commercialized and industrialized. This might be surprising if one suspected that early schooling would have been encouraged in communities where there were more opportunities for mothers to work outside the home. However, since very few married women in nineteenth-century Massachusetts were gainfully employed outside the home, this factor apparently was not very important.[73] Again, the situation of the United

States may be very different from that of Europe, where one of the explicit functions of infant schools was to provide a place for young children while the mothers were working.[74]

One might speculate that communities which had a larger tax base would be more apt to provide facilities for young children since the relative financial burden of providing additional teachers and classrooms would be less in those towns. The results indicate no substantial relationship between the taxable wealth of a community and the likelihood of young children to be enrolled in the public schools. Thus, it appears that the arguments against early childhood education were sufficiently persuasive to most local school committees that they were not tempted to offer additional or even special facilities for young children even if they had the financial resources to do so.

Finally, many of the arguments in favor of infant schools in the United States as well as in Europe had been based on the assumption that the early education of children would minimize or even prevent pauperism and crime in the future. Therefore, we included the per capita expenditures on paupers as one of the independent variables in order to see if parents and school officials were more likely to encourage the enrollment of young children in public schools in those communities which were heavily burdened with expenses for caring for the poor. The results suggest that this may have been the case in 1840 when there is a strong, positive relationship between school attendance of young children and per capita pauper expenses, but not in 1860 and 1875 when that relationship becomes very weak. Whatever social control motives may have earlier operated in the infant school movement--getting moral training to the young children of poor or otherwise untrusted parents--seem to have been negated by the reaction against early schooling and the bureaucratic development of schools, both of which were more extensive in industrial and commercial cities. Both theories of childhood and the structure of schools made four-year-olds poor candidates for character training in the schools of mid-nineteenth-century Massachusetts.

The regression analyses of the public school attendance of young children in Massachusetts towns in 1840, 1860, and 1875 provide an insight into the type of community which encouraged or at least permitted young children to enroll in school. But they do not tell us anything about which families within those communities were sending their young children to school. In the next chapter we analyze the determinants of school attendance of children ages zero to nineteen in eight Essex County towns in 1860 and 1880, using manuscript census data at the household level.

We discovered that the strongest predictors of school entry were the age of the child and the community in which he or she lived. Other factors such as the ethnicity of the child, sex of the child, the literacy of the parent, or the economic situation of the family were not very strong predictors of the school attendance of young children. Thus, the school attendance of young children in 1860 or 1880 was not explained very much by differences in the characteristics of their families. There were significant decreases in the school attendance of young children between 1860 and 1880 for almost every subgroup of the population. This suggests that the decline in school attendance of young children in those Massachusetts towns was in large part due to general changes in the society as a whole rather than factors which affected only certain portions of that population.

V. The Kindergarten Movement in Massachusetts

Despite the adverse publicity given to the education of young children in the nineteenth century, kindergartens were established for children ages three to six in several Massachusetts communities after the Civil War. Though it is not our intention to analyze the development of kindergartens in Massachusetts in this essay, we will briefly consider why these institutions, which catered to very young children, began to flourish in the late nineteenth century in spite of educators' long-standing hostility toward early schooling.

The originator of the idea of kindergartens was Friedrich Froebel, a German educator who had spent several years with Johann Pestalozzi at his school in Yverdon, Switzerland in the early nineteenth century. Froebel tried to create a system of education for very young children that emphasized the gradual development of the child, the importance of female teachers, and the use of games and gifts rather than letters and books. Froebel's efforts initially were unsuccessful at home when the Prussian government suddenly banned all kindergartens in 1851. Though Froebel died less than a year after this disheartening setback, his ideas and techniques were quickly disseminated throughout Western Europe and America in his writings as well as by individuals who had worked with him.[75]

Though several German-speaking kindergartens were established in America before the Civil War, they did not have much impact on the development of American education.[76] It was not until Elizabeth Peabody, the sister-in-law of Horace Mann, started the first English-speaking kindergarten in Boston in 1860 that these schools began to attract wide notice from American educators. In large part through her tireless efforts to spread the idea of these new institutions, the kindergarten movement gradually gained momentum in the late nineteenth century in America.[77]

Elizabeth Peabody had been acquainted with infant schools in Massachusetts during the 1820's and 1830's and had taught in Bronson Alcott's famous Temple School in Boston. Yet when she advocated the establishment of kindergartens some forty years later, she rejected the older infant schools as being too narrowly focused on discipline and rote memorization. Furthermore, she felt that intellectual activities, such as reading, should not be thrust upon children at an early age:

> This art [of reading] should be taught simultaneously with writing, or, more properly printing; and I should certainly advise that it do not come till children are hard upon seven years old...[78]

Elizabeth Peabody and most other advocates of kindergartens wanted young children ages three to six to be educated in a social setting with other children under the supervision of a trained kindergarten teacher. But they also strenuously protested against any efforts to teach these young children how to read in the kindergartens. Thus, though kindergartens were a new innovation in education in late nineteenth-century America, they did not clash with the well-established notion that excessive intellectual activity by very young children was undesirable. Furthermore, the stress in kindergartens on games and physical activities minimized the earlier complaints from educators and parents that young children in school were being forced to sit quietly at their desks for long periods of time. The relatively slow rate of growth of kindergartens in late nineteenth-century Massachusetts was due more to their high cost rather than to the fear that sending young children to these kindergartens might be harmful for them. Despite the movement's early effort to respond to the unique needs of the three-to-six year-old child, educators soon accommodated kindergartens to the age grading, efficiency principle, and they became a year-long introduction to public schooling for five-year-olds.[79]

VI. Conclusion

In this essay we have argued that there was a change in the way families and society dealt with children between the ages of three and six in the past. In the colonial period, though young children were seen and treated differently than older children, it was assumed that children were capable of intellectual activities such as reading at very early ages. Furthermore, although children were encouraged to attend schools, most of them were educated in the rudiments of reading at home by their parents.

By the early nineteenth century, educators and parents still assumed that children should be taught their alphabet and reading at a very early age. However, there was a shift in the relative role of parents and schools in the training of the young. Increasingly private and public schools in Massachusetts replaced the family as the agency which taught young children how to read and write. The idea of sending children to school at very early ages was reinforced by the infant education movement in the late 1820's and early 1830's which encouraged parents to send two and three year olds to these new institutions. Furthermore, the early nineteenth century witnessed the growing belief in America that the experiences during early childhood were very important in the ultimate development of the adult.

By the third decade of the nineteenth century, a large portion of children under four years old were enrolled in school. Yet there was a reaction against sending such young children to school. The sources of this hostility to early schooling were based on at least three major considerations: the growing emphasis on childrearing at home; the stress on the need for gradual and balanced child development, plus the fear of insanity caused by excessive intellectual activity at a very young age; and the bureaucratic development of age-graded and standardized schools.

There was a consensus among educators, physicians, and child care specialists by the middle of the nineteenth century that young children should not be enrolled in school or taught to read at an early age. Yet parents were very slow in responding to these warnings by withdrawing their young children from the schools. This was due, it seems, to parents' persistent desire to share custodial as well as intellectual responsibilities with the school, and to the initial reluctance of school officials to enforce minimum ages for entering public schools. In most localities it was not seen as an issue that required outright governmental regulation until after 1850.

By the late nineteenth century, some major changes had occurred in educators' attitudes and in the educational patterns of young children. Although both the Puritans and their late nineteenth-century counterparts emphasized the importance of the family in the early education of the child, their definitions of the nature of that child as well as of a proper education had shifted considerably during those two hundred years. Whereas the child was regarded as innately evil and sinful by Puritans, most late nineteenth-century Americans saw children as innocent beings that needed parental protection and gentle guidance. In colonial Massachusetts children had been encouraged to learn to read as soon as possible, while in the late nineteenth century most educators and parents discouraged reading before the age of seven.

The waning of the harsh Calvinist view of infants, along with the dissemination of Lockean and Pestalozzian notions of the unique emotional, physical and intellectual needs of pliant but frail young children, fostered the delineation of a distinctive stage of childhood--the pre-schooler. In the period 1830 to 1880 the boundary between family and school became more sharply demarcated; schools became more age-graded, standardized, and regimented, while the early childhood years became more protected, both through the postponement of intellectual training and the later entry into school. This new relationship between school and family was initiated by school spokesmen and child-rearing theorists; parents, it seems, adjusted to it only gradually and reluctantly. When theory once again promoted early institutional learning, as in the Head Start programs or middle-class nursery schools of the twentieth century, there were always willing clients. Nonetheless, for most children, the abrupt transition at age five from a protective, personal family to an age-graded, task-oriented school persists as one of the first major life course events.

Footnotes

[1] U. S. Bureau of the Census, The U. S. Fact Book, 1976: The Statistical Abstract of the U. S. (New York, 1976), p. 115.

[2] For example, see Robert D. Hess and Roberta Meyer Bear, eds., Early Education: A Comprehensive Evaluation of Current Theory, Research, and Practice (Chicago, 1968); Arthur R. Jensen, "How Much Can We Boost IQ and Scholastic Achievement," Harvard Educational Review, 39, no. 1 (1969), 1-123; Jerome S. Kagan, et al., "How Much Can We Boost IQ and Scholastic Achievement--A Discussion," Harvard Educational Review, 39, no. 2 (1969), 273-356; Marshall S. Smith and Joan S. Bissell, "Report Analysis: The Impact of Headstart," Harvard Educational Review, 40, no. 1 (1970), 51-104; Victor G. Circirelli, John W. Evans, and Jeffrey Schiller, "A Reply to the Report Analysis," Harvard Educational Review, 40, no. 1 (1970), 105-129.

[3] For example, some historians who have analyzed children in the past have simply assumed that age was not a very important factor in determining the character of the child or that there were not major changes in the meaning of the word "child" over time. Bernard Wishy, The Child and the Republic: The Dawn of Modern American Child Nurture (Philadelphia, 1968), p. x. Similarly, most efforts to study school attendance patterns in the nineteenth century have not even considered the possible importance of changes in the age of school entry. Albert Fishlow, "The American Common School Revival: Fact or Fancy?" in Industrialization in Two Systems: Essays in Honor of Alexander Gershenkron, ed. Henry Rosovsky (New York, 1968), pp. 40-67. For a critique of this latter practice, see Maris A. Vinovskis, "Trends in Massachusetts Education, 1826-1860," History of Education Quarterly, 12 (Winter 1972), 501-529.

[4] Some of the recent articles on adolescence in the past are John and Virginia Demos, "Adolescence in Historical Perspective," Journal of Marriage and the Family, 31 (November, 1969), 632-638; Joseph F. Kett, "Adolescence and Youth in Nineteenth-Century America," The Family in History: Interdisciplinary Essays, eds. Theodore K. Rabb and Robert I. Rotberg (New York, 1973), pp. 95-110.

[5] Robert Dreeben, On What Is Learned in School (Reading, Massachusetts, 1968); Talcott Parsons, The Social System (Glencoe, Illinois, 1951); Neil J. Smelser, Social Change in the Industrial Revolution (Chicago, 1959).

[6] Dreeben, On What is Learned in School, pp. 66-84.

[7] Massachusetts Teacher, March, 1857, quoted in Michael B. Katz, The Irony of Early School Reform (Cambridge, 1968), p. 119; Jocelyn, The Parents and the Teacher (, 1845), p. ; Dedham school report, quoted in Wisconsin State Superintendent

of Instruction, Annual Report (Madison, 1857), p. 100; A Statement of the Theory of Education in the United States (1874), quoted in David B. Tyack, "Bureaucracy and the Common School: The Example of Portland, Oregon, 1851-1913," American Quarterly 19 (Fall, 1967), 477.

[8] There is a great amount of information available on Puritans and education. Some of the most useful discussions are in James Extell, The School Upon a Hill: Education and Society in Colonial New England (New Haven, 1974); Bernard Bailyn, Education in the Forming of American Society (Chapel Hill, North Carolina, 1960); Lawrence A. Cremin, American Education: The Colonial Experience, 1607-1783 (New York, 1970); Edmund S. Morgan, The Puritan Family: Religion and Domestic Relations in Seventeenth-Century New England (Revised edition: New York, 1966).

[9] Quoted in Cremin, American Education, p. 181. Whereas the Massachusetts Bay Colony was very concerned with formal education in the seventeenth century, the Pilgrims in Plymouth Colony did not establish schools in the early years of their settlement. For a discussion of education in Plymouth Colony, see John Demos, A Little Commonwealth: Family Life in Plymouth Colony (New York, 1970), pp. 142-144.

[10] Geraldine Joanne Murphy, "Massachusetts Bay Colony: The Role of Government in Education" (unpublished doctoral thesis, Radcliffe College, 1960).

[11] Kenneth A. Lockridge, Literacy in Colonial New England: An Enquiry into the Social Context of Literacy in the Early Modern West (New York, 1974); Cremin, American Education, pp. 517-543.

[12] Lockridge, Literacy in Colonial New England.

[13] Quoted in Children and Youth in America: A Documentary History, eds. Robert H. Bremner, John Barnard, Tamara K. Hareven, and Robert M. Mennel, I (Cambridge, Massachusetts, 1970), p. 41.

[14] For some very useful essays on this issue, see Egil Johansson, ed., Literacy and Society in a Historical Perspective: A Conference Report (Umea, Sweden).

[15] Lockridge, Literacy in Colonial New England, p. 7.

[16] Unfortunately, there has been very little discussion of the relative roles of mothers and fathers in the education of their children in the colonial period though this issue has attracted considerable attention in the nineteenth century. The best discussion of the mother's role in childhood education in the nineteenth century is still Anne L. Kuhn, The Mother's Role in Childhood Education (New Haven, 1947).

[17] Quoted in Children and Youth in America, p. 40.

[18] Cotton Mather, Corderius Americanus.... (Boston, 1708), quoted in Theories of Education in Early America, 1655-1819, ed. Wilson Smith (Indianapolis, 1973), p. 27.

[19] John Demos, "The American Family in Past Time," American Scholar, 43 (Summer 1974), p. 428.

[20] For a critique of the position that young children in early America were seen as miniature adults, see David E. Stannard, "Death and the Puritan Child," in Death in America, ed. David E. Stannard (Philadelphia, 1975), pp. 9-29. For some examples of the precocity of children in colonial America, see Alice Morse Earle, Child Life in Colonial Days (New York, 1922), pp. 176-195.

[21] Cremin, American Education, pp. 361-365, 419-423.

[22] John Locke, Some Thoughts Concerning Education, abridged and edited by F. W. Garforth (Woodbury, New York, 1964), p. 186. On the problems of using childrearing guides in the past, see Jay Mechling, "Advice to Historians on Advice to Mothers, Journal of Social History, 9 (Fall 1975), 44-63. Many of Locke's suggestions were probably incorporated in the practices of childrearing in colonial America since specific references to his work are found in some of the colonial diaries and letters that discuss childrearing. For example, Mrs. Pinckney writes to a friend, "Shall I give you the trouble my dear Madam to buy my son a new toy (a description of which I inclose) to teach him according to Mr. Locke's method (which I have carefully studied) to play himself into learning. Mr. Pinckney (his father) himself has been contriving a sett of toys to teach him letters by the time he can speak. You perceive we begin betimes for he is not yet four months old." Quoted in Earle, Child Life in Colonial Days, p. 182. Though it is unlikely that Locke's work affected most colonial mothers directly through his writings, some middle and upper class parents obviously did read and follow some of Locke's suggestions.

[23] Oscar and Mary F. Handlin, eds., The Popular Sources of Political Authority: Documents on the Massachusetts Constitution of 1780 (Cambridge, Massachusetts, 1966), p. 467. Yet religion remained a very important factor in encouraging education in antebellum Massachusetts. Many of the early school reformers were motivated as much by religious and moral considerations as by social and economic factors.

[24] For a discussion of the religious controversies over education in ante-bellum America, see Charles E. Bidwell, "The Moral Significance of the Common School: A Sociological Study of Local Patterns of School Control and Moral Education in Massachusetts and New York, 1837-1840," History of Education Quarterly, 6 (Fall 1966), 50-91; and Raymond B. Culver, Horace Mann and Religion in the Massachusetts Public Schools (New Haven, 1929).

[25] On the attitudes of nineteenth-century Americans toward young children, see Peter G. Slater, Views of Children and of Child Rearing During the Early National Period: A Study in the New England Intellect (unpub. Ph.D. dissert., University of California at Berkeley, 1970); see also Wishy, Child and the Republic and Kuhn, Mother's Role in Childhood Education.

[26] On the eighteenth century, see Norwood M. Cole, The Origin and Development of Town-School Education in Colonial Massachusetts, 1635-1775 (unpub. Ed.D. dissert., University of Washington, 1957). On the extent of education in early nineteenth-century America, see Chapter 2 above. See also Carl F. Kaestle, The Evolution of an Urban School System: New York City, 1750-1850 (Cambridge, Massachusetts, 1973); Stanley K. Schultz, The Culture Factory: Boston Public Schools, 1789-1860 (New York, 1973; and Carl F. Kaestle and Maris A. Vinovskis, "Quantification, Urbanization, and the History of Education: An Analysis of the Determinants of School Attendance in New York State in 1845," Historical Methods Newsletter, 8 (December 1974), 1-9.

[27] For the text of the Massachusetts school law of 1789, see Children and Youth in America, pp. 233-235.

[28] For a good discussion of this controversy, see Schultz, The Culture Factory, pp. 30-44.

[29] Joseph M. Wightman, Annals of the Boston Primary School Committee (Boston, 1860), pp. 25-26.

[30] Wightman, Annals of the Boston Primary School Committee, p. 28.

[31] Wightman, Annals of the Boston Primary School Committee, p. 46.

[32] Boston School Committee, Report of the School Committee of the City of Boston on the State of the Schools, May 1826 (Boston, 1826).

[33] Ibid. The estimate is based on the number of children under four in private schools according to the Boston School Committee and an estimate of the number of children under four from the 1820 and 1830 federal censuses.

[34] Much of our discussion on infant schools draws very heavily on an earlier essay by Dean May and Maris A. Vinovskis, "A Ray of Millenial Light: Early Education and Social Reform in the Infant School Movement in Massachusetts, 1826-1840," in Family and Kin in American Urban Communities, 1800-1940, ed. Tamara K. Hareven (New York, 1976). We have also greatly benefited from the work of John Jenkins who is currently doing a doctoral dissertation at the University of Wisconsin on the education of young children in antebellum America.

[35] Boston Recorder and Scriptual Transcript, July 9, 1829.

[36] Ladies' Magazine, II (February 1829), 89-90.

[37] For a more detailed analysis of the supporters of the infant schools, see May and Vinovskis, "A Ray of Millenial Light."

[38] On the teaching profession during the ante-bellum years, see Paul H. Mattingly, The Classless Profession: American Schoolmen of the Nineteenth Century (New York, 1975); and Richard Bernard and Maris A. Vinovskis, "The Female School Teacher in Ante-Bellum Massachusetts," Journal of Social History (forthcoming).

[39] On the attitudes of Boston educators, see Schultz, The Culture Factory.

[40] Quoted in David Salmon and Winifred Hindshaw, Infant Schools: Their History and Theory (London, 1904), p. 27.

[41] May and Vinovskis, "A Ray of Millenial Light."

[42] The analysis of the Concord school register is discussed in May and Vinovskis, "A Ray of Millenial Light." The Worcester school registers for the 1830's are located at the American Antiquarian Society. We have analyzed the age-distributions of children in the Worcester public schools during those years.

[43] When Mann first inquired of school committees the number of children under four in public school in 1840, some of the committees were unable to provide information of this issue for that year because they had not collected it. Unfortunately, when Mann reported the number of children under four in his published report, he did not make the distinction between those towns that had no children under four going to school and those which simply had not been able to report that information. Therefore, calculating the percentage of children under four in 1840 who were attending school from Mann's annual report underestimates that figure. An examination of the manuscript local returns for 1840 indicates that the actual percentage of children under four in public school in 1840 would be about thirteen percent rather than the ten percent figure derived from Mann's published annual report for that year. Most local school committees immediately remedied their lack of information on this issue by 1841 so that the number of children under four reported by Mann is a very good estimate after 1840. For a further discussion of the problems of Massachusetts school data, see Chapter III above.

[44] On the revival of the idea that children should be educated in the home, see Kuhn, The Mother's Role in Childhood Education; and Wishy, The Child and the Republic.

[45] May and Vinovskis, "A Ray of Millenial Light."

[46] On the impact of Pestalozzi's ideas in America, see Will S. Monroe, *History of the Pestalozzian Movement in the United States* (Syracuse, 1907).

[47] Quoted in Gerald Lee Getek, *Pestalozzi and Education* (New York, 1968), p. 86.

[48] For example, see William Woodbridge, "Infant Education." *American Annals of Education*, I (August 1830), 355-356.

[49] "Suggestions to Parents," *American Journal of Education* 2 (March, 1827), 166; "Sketches of Hofwyl," *American Annals of Education and Instruction for the Year 1831 and Part of 1830* 1 (March, 1831), 89; Dr. J. V. C. Smith, "The Infantile Frame," *American Annals of Education and Instruction for the Year 1834* 4 (February, 1834), 75.

[50] Amariah Brigham, *Remarks on the Influence of Mental Cultivation and Mental Excitement Upon Health*, 2nd edition (Boston, 1833), pp. 15, 55.

[51] "Mental Precocity," extracts from the *London Christian Observor*, in *American Annals of Education and Instruction for the Year 1833* 3 (June, 1833), 269; Dr. Samuel B. Woodward to Horace Mann, December 7, 1840, in Massachusetts Board of Education, *Fourth Annual Report* (Boston, 1840), Appendix.

[52] May and Vinovskis, "*A Ray of Millenial Light*."

[53] Lydia Sigourney, *Letters to Mothers* (Hartford, 1838), p. 147.

[54] Heman Humphrey, *Domestic Education* (Amherst, 1840), pp. 11-12. For a very useful chapter on the reactions against early education in the domestic literature, see Kuhn, *Mother's Role in Childhood Education*, pp. 98-119.

[55] Humphrey, *Domestic Education*, pp. 71-73.

[56] Massachusetts Board of Education, *Annual Report for 1839-40*, p. 370.

[57] *Ibid.*, p. 322.

[58] Massachusetts Board of Education, *Annual Report for 1851-52*, pp. 36-37.

[59] For a useful discussion of the problem of studying child-rearing practices from only literary data, see Mechling, "Advice to Historians."

[60] In 1839 Horace Mann, the Secretary to the Board of Education, summarized the situation as: "In answer to another question, not here quoted, relative to the ages within which children attend our public schools, I have learnt, that exclusive regulations, founded on age, exist in but very few towns--probably in not more than fifteen or twenty,--in the State. And although the great majority of the children in the schools are between the ages of four and sixteen, yet in almost all the towns, they are allowed to attend both earlier and later, and they are found from three, and sometimes from two years of age up to twenty-one, very frequently, and sometimes to twenty-four or twenty-five." Massachusetts Board of Education, Annual Report for 1838-39, p. 38.

[61] Unfortunately, there is no way of knowing how many children under four were enrolled in the private schools. However, since the percentage of children attending private schools throughout this period was not very large, it is likely that the additional number of children under four in the private schools was not very large.

[62] Parents had also been very slow to remove their children from the infant schools even after the adverse publicity about those schools began to make their appearance in Boston. May and Vinovskis, "A Ray of Millenial Light."

[63] It is interesting to note that throughout these years, the secretaries to the Massachusetts Board of Education were not in favor of early schooling; however, none of them thought that the problem was sufficiently important to make an all-out campaign against early education.

[64] Palmer, Massachusetts, School Committee, Annual Report (1841).

[65] For two excellent surveys of the attitudes of hospital superintendents and physicians on the causes of insanity in nineteenth-century America, see Norman Dain, Concepts of Insanity in the United States, 1789-1865 (New Brunswick, New Jersey, 1964); Gerald N. Grob, Mental Institutions in America: Social Policy to 1875 (New York, 1973). One of the major problems in discussing the importance of various factors in causing insanity is that most of these superintendents and physicians tended to mention a wide variety of factors without specifying their relative importance. Hence, the danger is that one can find evidence to support many different interpretations of the relative importance of factors such as excessive education in causing insanity. Some physicians, such as Amariah Brigham, clearly stressed the importance of early education as a predisposing factor, and others certainly mentioned early education as one of many factors. But our overall impression is that early education was not one of the key factors for most physicians and superintendents during this period.

[66] The relationship between early education and insanity was a complicated one. Many of the physicians and superintendents who discussed that relationship saw it as a predisposing factor rather than an immediate cause of insanity. Yet it is interesting to note that of the 6427 patients admitted at the Worcester State Hospital from 1833 to 1860, only 29 cases were listed as due to excessive intellectual activity. These figures are some preliminary results of a large-scale study of patient records at four insane asylums in ante-bellum America by Barbara Rosenkrantz and Maris Vinovskis.

[67] Massachusetts Board of Education Annual Report for 1857-58 (Boston, 1858), pp. 93-94.

[68] Massachusetts Board of Education, Twenty-second Annual Report (Boston, 1859), pp. 57-8; abstract of Stoneham annual report in ibid., p. 116; Springfield School Committee, Annual Report (1861); Salem School Committee, Annual Report (1880); Massachusetts Board of Education, Thirty-seventh Annual Report (Boston, 1874), pp. 66-67.

[69] Lynn School Committee, Annual Report (1880).

[70] There is nothing in those annual aggregate state figures (see Chapter 3) to indicate that any of our three sample years was atypical.

[71] For a discussion of the problems of measuring urbanization in the past, see Chapter 4 above. In 1860 we could have used an estimate of the total number of acres in each town rather than the number of acres of farmland since the latter is a reflection of agricultural development as well as density. However, we preferred to use the latter since it was more comparable to our measures in 1840 and 1875. Since the two measures in 1860 are highly correlated (.82), the use of one or the other does not introduce significant differences in our regression analyses.

[72] Our indices of commercial and industrial development are not strictly comparable in all three time periods. In 1840 we calculated the percentage of the employed population that was engaged in either commerce or manufacturing based on occupational data gathered at the household level. For 1860 we estimated the number of merchants or persons in manufacturing per males ages fifteen and up. The number of merchants in these towns was printed in the summary of the federal census of Massachusetts in 1860. Since information on the number of people engaged in manufacturing was not readily available in the printed sources, it was necessary for us to go to the manuscript federal census of manufacturing for 1860 which is located in the Massachusetts Archive of the State House in Boston. These schedules provided the number of males and females employed in manufacturing establishments producing goods valued at $500 or more. In 1875 we were again able to compute the percentage of the employed population engaged in either commerce or manufacturing.

[73] For a discussion on the participation of women in the labor force in nineteenth-century Massachusetts, see Karen Oppenheim Mason, Maris A. Vinovskis, and Tamara K. Hareven, "The Gainful Employment of Women and the Life Course in Essex County, Massachusetts, 1880," paper presented for the MSSB Conference on the Family Life Course in Historical Perspective at Williamstown, Massachusetts, July 1975.

[74] May and Vinovskis, "A Ray of Millenial Light."

[75] On the European background of kindergartens, see Salmon and Hindshaw, Infant Schools, pp. 92-125; Ilse Forest, Preschool Education: A historical and Critical Study (New York, 1927).

[76] On early kindergartens in America, see Ruth M. Baylor, Elizabeth Palmer Peabody: Kindergarten Pioneer (Philadelphia, 1965), pp. 23-40.

[77] On the role of Elizabeth Peabody, see Baylor, Elizabeth Palmer Peabody; Mary J. Garland, "Elizabeth P. Peabody, 1804-94," in Pioneers of the Kindergarten in America (New York, 1924), pp. 19-25; Lucy Wheelock, "Miss Peabody as I Knew Her," Ibid., pp. 26-38.

[78] Elizabeth P. Peabody, Guide to the Kindergarten and Intermediate Class (New York, 1877), p. 71.

[79] For a detailed discussion of kindergartens in Massachusetts, see Marvin Lazerson, Origins of the Urban School: Public Education in Massachusetts, 1870-1915 (Cambridge, Massachusetts, 1971), pp. 36-73. However, one should be aware that the pattern of growth of kindergartens in Massachusetts may not be typical. For example, the kindergarten movement in Michigan was quite different than that in Massachusetts. Robert Tank, "A Comparative Study of Educational Reform During the Progressive Era: The Establishment and Growth of Kindergartens in the Public Schools of Massachusetts and Michigan, 1888-1915," unpublished seminar paper, University of Michigan, April 1976. We are indebted to Robert Tank for sharing with us his materials on the kindergarten movement in Massachusetts.

CHAPTER VII

FROM FIRESIDE TO FACTORY: SCHOOL ENTRY AND SCHOOL LEAVING IN NINETEENTH-CENTURY MASSACHUSETTS

I. Introduction

Childbearing and childrearing are central features of a family's career. Indeed, sociologists often define family stages in terms of childrearing because children impose many responsibilities upon parents. Infants require constant supervision and all children require of parents both time and financial resources. The commitment of childrearing is not only economic, but involves a loss of freedom for the parents (or at least, the mother) and an affective commitment to the child. The family's childrearing experience is substantially altered by external institutions, most notably in modern societies by the school and the workplace, which provide custody, training, and the possibility of income. The child's experience can in turn be affected by life course decisions by members of the family, for example, a mother's going (or returning) to work.

As children get older, they provide the potential for additional family income, perform nonremunerated tasks within the family, and insure the future possibility of caring for their parents in old age. Seen in economic terms, then, the balance between burden and benefit shifts toward the plus side as children grow up even though most children never become a net lifetime benefit to their parents. Childrearing is not a static phase of a family's career, but a continuing process moving toward the independence of the children, a process which may vary widely depending upon the historical period, the type of community, the ethnic and economic characteristics of the family, and the composition of the family and household.

The family life course concept may thus enter the study of childrearing in two ways: childrearing may be seen as a stage or as a portion of a continuum in a family's history. Family life course is not one-dimensional: stages may be defined demographically, economically, and in other ways. For example, parents who begin childrearing when they are older may be able to provide children with more education than parents who are at an early stage in their economic career. In other words, using a one-dimensional family cycle concept is not as helpful as studying the different dimensions of a family's life course experience.

The research reported below was designed to investigate certain aspects of childhood in eight Essex County towns in 1860 and 1880, keeping in mind these life course concepts. Although the study is not longitudinal, the large sample sizes and the possibility of comparing two different periods should give us some insights into varieties of family experience in late nineteenth-century Massachusetts.

The most systematic data concerning the activities of individual children in this period, available in the manuscript schedules of the federal censuses after 1850, are: whether the child attended school during the previous year (not how long or what type of school), whether the child was employed and if so, at what occupation. Our study will analyze the children's differing options in varied communities and families by using school attendance as the dependent variable though we shall discuss children's employment as an important alternative to school.[1]

The dependent variable in this study is the dichotomous census item, whether the subject attended any school in the previous year. For our younger sample, children ages 4-8, we are attempting to analyze in greater detail than in the previous chapter the initial entry into school, the crucial transition in the life course of virtually all children when the family begins to share custody and training with a formal institution. For our samples of youths ages 13-19 we are studying the age structure of school leaving and how it is influenced by family background and family experience. It is possible, of course, that some children left and reentered school more than once in their youth, but in a large sample like ours, the census information on nonattenders should reflect the characteristics of those who have left school permanently. As for the truthfulness of the responses, there would seem to have been little pressure for false claims of school attendance in our sample of 4-8 and 13-19 year-olds. The only children covered by attendance legislation (see below) in these age-groups were the 13 year-olds, and the enforcement of this law was very imperfect. Secondly, even if some parents claimed school attendance for nonattenders, the converse seems unlikely. Because our data reveals substantial numbers of parents reporting nonattendance, which we have no reason to disbelieve, our multivariate analysis should reveal the relationships between the independent variables and either school entry or school leaving.

Our study uses a form of multivariate analysis called multiple classification analysis. Despite recent studies of nineteenth century school attendance which rely on descriptive statistics as opposed to more manipulative multivariate analysis, two factors compel us to push beyond mere description and cross-tabulation of school attendance at a single urban site. First, if we seek to discover the relative statistical association of possible causal factors upon school attendance, multivariate analysis is required. Second, if we wish to study the influence not only of the child's characteristics and those of his family, but also the type of community in which the child lives, a multi-community sample is essential.[2]

The research we report in this chapter meets these two requirements. It is a study of five rural and three urban towns in Essex County, Massachusetts in 1860 and 1880 using multiple classification analysis to investigate the determinants of school attendance. In addition to the important and difficult question of the relative impact of cultural and economic variables, we are particularly interested in the relationship of family experience to schooling. In order to get at the influence of family structure and family life course on our subjects' education, we have included more variables regarding the family than previous studies.

Our overall sample consists of all individuals in five rural Essex County towns (Boxford, Hamilton, Lynnfield, Topsfield, and Wenham) and a sample of individuals from three cities in that county (Lawrence, Lynn, and Salem) from the manuscript federal censuses of 1860 and 1880. In order to make our urban sample roughly comparable in absolute number of individuals, for 1860 we selected individuals in every sixth urban household and for 1880 in every tenth.[3] From these large samples--over 14,000 persons for each of our years--we created for our study of children and youth a compressed file of all individuals ages 0-19. For each of these individuals in our compressed file detailed information was added concerning the subject's siblings, parents, and household. Before discussing our results, however, we must first turn to a description of some aspects of childhood in Essex County in 1860 and 1880.

II. Schooling and Child Labor in Essex County, 1860-1880

A. Massachusetts Laws Affecting Education and Child Labor

Before we can make judgments about children's decisions, we must ascertain to what extent they were voluntary and to what extent regulated. Parental coercion is not amenable to direct study, so it shall remain a moot question in this study. The formal requirements and actual implementation of state regulation, however, are necessary background in studying schooling and child labor.

The legislative history of child labor and compulsory school attendance laws in Massachusetts is complicated; we shall summarize those statutes that affected our two sample years, 1860 and 1880. As of 1860, no child under ten years of age was to be employed more than ten hours a day (1842); children under fifteen years old working in manufacturing establishments were to have attended school for three months during the preceding year and obtained a certificate proving this (1836, 1838); and school committees were instructed to enforce the law (1842). Towns were permitted to make further provisions to enforce the laws (1850); truants could be incarcerated (1850); and all children, whether employed or not, were to attend school for twelve weeks each year, unless they already knew the rudiments, were physically or mentally defective, or impoverished (1852).[4] Evidence abounds to show that these laws were neither widely nor strictly enforced.[5]

During the late 1860's and the 1870's there was a flurry of legislation on these subjects, spurred in part by the studies of the newly created Bureau of the Statistics of Labor. As of 1880, then, the towns of Essex County were charged with implementing the following regulations: no child under ten was to be employed in a manufacturing, mechanical, or mercantile establishment (1876); children thus employed between the ages of ten and fourteen must have attended school for twenty weeks in the preceding year (1876) and were not to work more than 60 hours per week (1867); a Deputy Constable of the Commonwealth was assigned to enforce child labor laws (1867); and towns were required to provide truant officers (1873); all children age eight to fourteen, with the same exceptions as in 1860, were to attend school for twenty weeks a year (1874); no child under fourteen was to be employed during public school session if unable to read and write (1878); and employers were required to keep proof of their employees' birth and school attendance on file for truant officers' inspection (1878).[6]

That these laws were still controversial is suggested by the constant seesaw revision of age limits and length of schooling requirements. Despite constantly stiffening provisions for reports by truant officers and school committees, and despite requirements that employers prove both age and school attendance for employees under fourteen, the laws were still very imperfectly enforced. In the late 1860's and early 1870's the Bureau of Statistics of Labor collected and published voluminous evidence of abuse. Children under ten worked in factories, children age ten to fifteen had not been to school for years, and factory officials falsified records.[7]

Despite widespread complaints of noncompliance with child labor and school attendance laws, it would not be accurate to assume that there were no differences in enforcement between 1860 and 1880. In rural towns the laws were cited by school officials to reinforce their traditional pleas to parents, and sometimes they used the statutes as a stick to persuade uncooperative parents.[8] In the large towns, including Lawrence, Lynn, and Salem, truant officers could harass and cajole, and sometimes actually compel, truants to go back to school. The Lawrence school superintendent boasted that their truant officer had nearly eliminated truancy, and a report of the Bureau of the Statistics of Labor claimed in 1882 that Lawrence's working class was better educated than other factory towns and that the factory laws regarding children were generally in force.[9] Meanwhile, Lynn's school superintendent complained in 1880 that truancy seemed "to be a growing and, at present, an irrepressible evil."[10] Obviously, enforcement of child labor and truancy laws varied from town to town. It is important to note that no school laws affected children under eight or those over fourteen years old—the two major groups of children in our analysis.

B. The Employment of Children

Swimming, berry picking, and loitering around the wharves presented alluring alternatives to multiplication tables and hard benches. But our statistics do not catch the occasional truants, any more than the truant officer did. The bulk of our analysis deals with whether children attended school at any time in the previous twelve months, and child labor was the most common cause of sustained nonattendance among teenagers (especially males). Employment opportunities differed substantially between urban and rural towns. Most labor for children in the rural towns was agricultural, which meant that it was more seasonal than urban work and, to the extent that children were working on their parents' farms, the work was often nonremunerative. Of course, such work contributed directly to the family income, just as factory wages did for urban children's families. The difference is that the manuscript census reports probably ignored much nonremunerated labor, so family farm work is not amenable to study from our sources.

Urban youth employment, which in good times was year-round, was not only recorded in the census somewhat more accurately, but was also more in conflict with school attendance. Thus, while older boys in rural areas commonly attended winter school, perhaps for the lack of anything better to do, urban employers complained of the disruption of having to replace children who had to take time off to complete their requisite schooling. This problem generated some new forms of schooling, such as half-time and evening schools for factory youths, which--however educationally meager--were more compatible with full-time work.

Aggregate census data provide a profile of youth employment in the eight towns. The 1880 federal census gives separate figures for employees ages ten to fifteen but included those over fifteen with all adults. More interesting for our purposes are the aggregate employment figures for 1885 since the largest concentration of youth workers were over fifteen. The number of children ages ten through thirteen reported as working is very small, due either to the fact that young children were not commonly employed by this date, or, more likely, to underreporting. The number of youths age fourteen through nineteen employed in each town's principal occupations are presented in the appendix (see table No. VII-1 and VII-2). These tables illustrate the wider variety of employment opportunities for children in the large towns, which, combined with the non-seasonal nature of urban work, helps account for the lower rate of total school enrollment among urban youths. In the rural towns very few youths were employed in any remunerative labor except farm work for boys and housework for girls. In the urban towns girls worked not only in housework and as servants, but also as bookkeepers and clerks, and as operatives in the mills. For example, women were more than half the work force in Lawrence's cotton mills, and 27 percent of the women operatives were between the ages of fourteen and nineteen. Boys of this age also made up a substantial portion of the labor force in manufacturing.

C. The Structure of School Systems in Urban and Rural Towns

Although the availability of youth employment in cities probably inhibited school attendance, the availability of the more developed and differentiated urban school systems should have enhanced it. Larger population centers had since colonial times been able to sustain schools above the primary level, and in the nineteenth century the levels of schooling in urban systems became further differentiated. By 1880 our three Essex County urban towns had not only the standard three-tiered system of primary, grammar, and high schools, but also various bureaucratic innovations such as intermediate, middle, mixed, evening, or ungraded schools--designed largely to deal with the educational problems created by working and/or foreign children. Rural systems, in contrast, were much simpler. Each district had its multi-graded district school, and sometimes there was a grammar department in the center district. Rural children who wished to attend high school had to board in one of the larger towns or commute a long distance.

Private and parochial schooling was also more available in urban areas, although data on private schooling is much less reliable than on public schools. For example, Boxford had an academy throughout this period but reported none for 1860. Lawrence school officials reported 1200 private students in 1880. These children were all in St. Mary's parochial schools, of which the public school officials approved. The figure does not include children in French Canadian parochial schools, of which the school board did not approve, nor did the board collect any figures on nonparochial private schooling. Salem's figures for 1880, on the other hand, seemed to be more thorough. In their returns to the state for 1879-80, they reported thirteen private schools and academies, enrolling

950 students during the year. In their own local school report for the following year, the figure is higher but not drastically so, and they enumerate the categories of students: of 1210 children of all ages then in private institutions, 67 were in college, 884 in Catholic schools, 183 under private tuition, 45 in asylums, and 31 in reformatories.[11]

Leaving aside for the moment the problem of private school estimates, table number one presents some basic data on the public systems in our communities for 1860 and 1880. With some anomalies (notably, the marked decline in attendance in Hamilton and Boxford), the following generalizations may be made: rural attendance levels, both average and total, are higher than in urban towns, and the difference persists in 1880, even though for the state as a whole there is a tendency for urban rates to catch up with rural rates during this period. Second, the length of the school year was much higher in the cities, so those children who did attend regularly were receiving more education. By 1880 the rural towns had increased their public school length substantially, but had not caught up with the large towns. This phenomenon makes sense in view of the seasonal nature of family work in agricultural towns; schools were kept longer in the urban communities because reformers and school officials desired longer school sessions for a variety of reasons, and families wanted schools, at least in part, to share the custodial functions of childrearing since more adult work was out of the home in the cities.[12]

Trends, however, cannot be reliably discerned from only two points in time; furthermore, the data in table number one are for public school only. Using a complex set of estimates and assumptions, we have generated information on the length of the public school year (see graph number one) and rates of total attendance for public and private schooling combined (see graph number two). Graph number one confirms the impression that had been gained from our data on individual towns in 1860 and 1880--urban schools are kept open longer than rural ones and the gap between them narrows over time. Graph number two illustrates that despite the systemization of schooling and the increasing societal pressures to attend school, the rate of total attendance for all persons ages 0-19 was actually declining in Massachusetts from 1840 to 1880. Our urban and rural communities in Essex County follow this general trend throughout this period. One of the major reasons for this decline in school attendance of children under twenty is that there was a concerted and successful effort to decrease the number of very young children in schools--a subject which we discussed in detail in the previous chapter.

The result of the changes in the pattern of school attendance and the length of the school year is summarized in our estimate of the number of days in school per person under twenty between 1840 and 1880 (see table No. VII-5 in the appendix). There was a substantial rise in the number of days in school per person ages 0-19 in Massachusetts from 60.6 days in 1840 to 72.2 days in 1879--largely because of the increasing length of public schools in the smaller towns. The trend in Essex County was very similar--the average number of days in school in 1840 was 63.7 days and 75.1 days in 1880. Our particular sample of towns in Essex County did not follow the pattern of either the state or Essex County. Instead, the number of school days per person

Table No. 1

Public School Attendance in Eight Essex County Towns, 1860 and 1880

Town	Population		Number of Children		Length of School Year (Days)	
	1860	1880	1860	1880	1860	1880
Lawrence	16,114	39,178	7420	15,638	228	220
Lynn	15,713	38,284	8124	13,605	232	224
Salem	20,934	27,598	9107	10,266	253	224
Topsfield	1250	1165	521	371	133	184
Hamilton	896	935	282	305	113	183
Wenham	1073	889	462	299	165	184
Boxford	1034	824	437	289	143	201
Lynnfield	883	686	335	218	183	185

	Average Daily Attendance				Total Attendance (Enrollment)			
	1860		1880		1860		1880	
	Number[1]	% of 0-19	Number	% of 0-19	Number[2]	% of 0-19	Number	% of 0-19
Lawrence	1662	22.4	4232	27.1	2873	38.7	5866	37.5
Lynn	2971	36.6	4667	34.4	4045	49.8	6183	45.4
Salem	2575	28.3	2807	27.3	4031	44.3	3858	37.6
Topsfield	141	27.1	116	31.3	231	44.3	202	66.2
Hamilton	107	37.9	80	26.2	182	64.5	134	43.9
Wenham	168	36.4	138	46.2	275	59.5	183	61.2
Boxford	181	41.4	89	30.8	294	67.2	135	46.7
Lynnfield	127	37.9	81	37.2	188	56.1	124	56.9

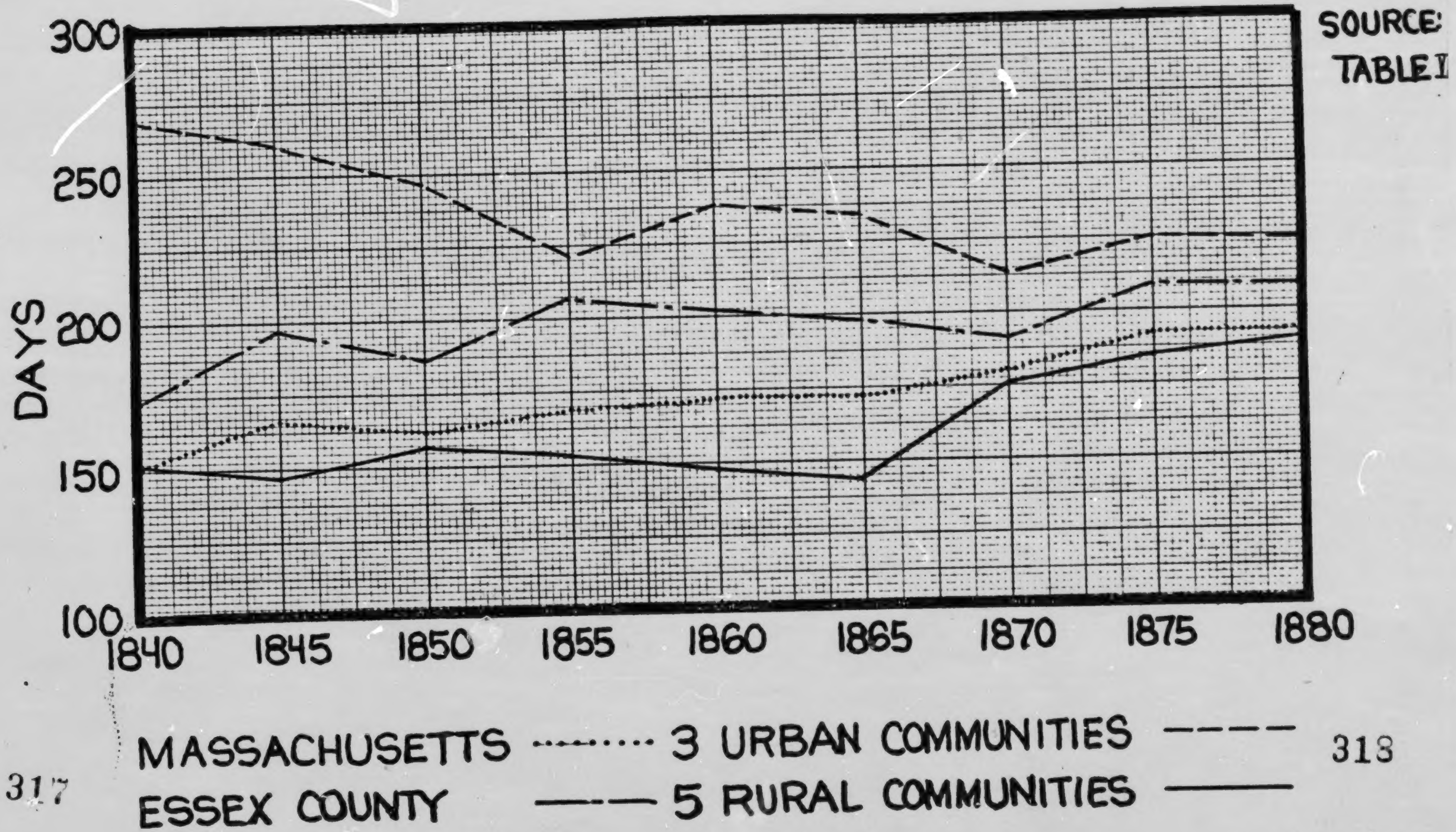
[1] Average summer attendance plus average winter attendance divided by 2

[2] Estimated: Winter attendance plus .25 times the summer attendance

Source: Calculated from Massachusetts Board of Education, Annual Reports, 1859-60 and 1879-80.

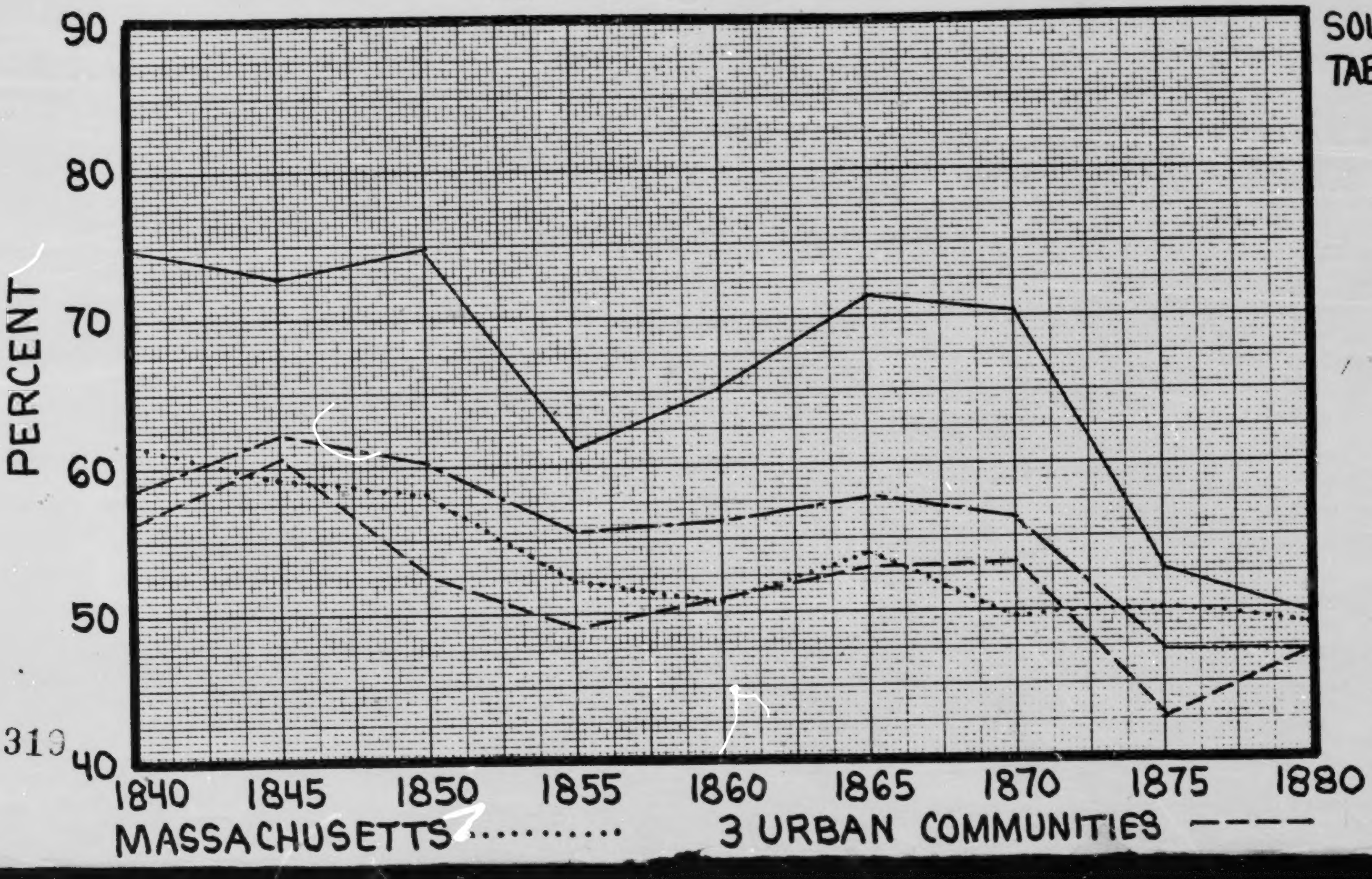
GRAPH NO. 1

AVERAGE LENGTH OF PUBLIC SCHOOLS IN MASSACHUSETTS, 1840-1880 (DAYS)



GRAPH NO. 2

PERCENTAGE OF PERSONS UNDER TWENTY YEARS OLD ENROLLED IN SCHOOL IN MASSACHUSETTS, 1840-1880



SOURCE:
TABLE VII-1

under twenty declined from 92.8 days in 1840 to 74.8 days in 1880 in our three urban communities and declined from 61.7 days in 1840 to 60.1 days in the five rural towns.

D. Conclusion

The foregoing descriptive introduction has emphasized rural-urban differences in schooling and youth employment in order to provide an ecological context for studying the individual choices made by (or for) children in these varied communities. In urban towns the school system was more bureaucratically differentiated; high schools and special schools were available. Truant officers attempted to insure school attendance, and schools provided supervision of young children whose parents worked. On the other hand, the cities offered more diversions and more alternatives to youth; also, to the extent that the urban population was more heterogeneous, there was more alienation and less consensus on the values promoted in schools. Most important, youth made up a substantial portion of the labor force. In the country towns schooling was more compatible with family and work and also probably had entertainment value for children of all ages since they had fewer places and occasions to congregate with their peers than their urban counterparts.

These generalizations speak to the community environment as a whole, however, not to individual and group differences within eight communities. To examine the effect of ethnicity, occupation, and family characteristics on the activities of youth, we now turn to our analysis of the manuscript census returns for 1860 and 1880.

III. Multiple Classification Analysis of School Attendance in 1860 and 1880

A. Introduction

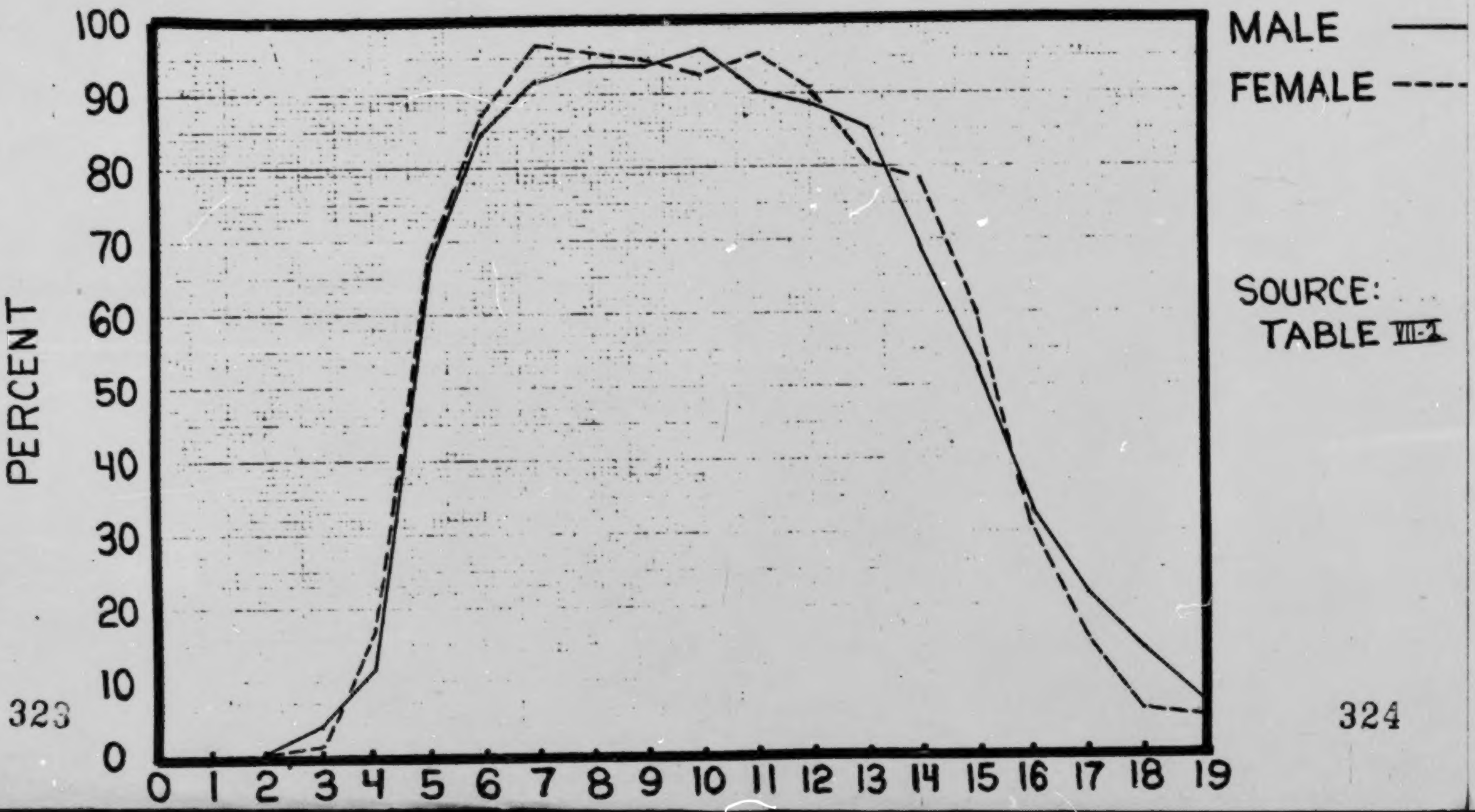
School attendance in our eight Essex County towns is determined to a large degree by the age of the child (see graphs number 3 and 4). Children ages 0-3 rarely attended school while almost all of the children ages 9-12 were in school at least part of the year. There was very little difference in the school attendance pattern of girls and boys in 1860 and 1880. Though the overall pattern of school attendance did not vary much by age and sex between 1860 and 1880, there was a tendency for children to attend school in smaller percentages in 1880 than in 1860--particularly at the younger ages.

Generally children in rural areas attended school in slightly higher percentages than their urban counterparts (see table No. VII-6 and VII-7 in Appendix A). However, the age and sex pattern of school attendance in both rural and urban areas are very similar.

Since we are interested in analyzing the determinants of school entry and school leaving, our study will focus on children ages 4-8 and 13-19. We have separated these two processes in our analysis because we shall argue that they involve very different considerations. Many scholars have viewed school entry and school leaving as identical issues even though nineteenth-century educators and parents saw them as distinctly separate processes. For example, whereas most educators

GRAPH NO. 3

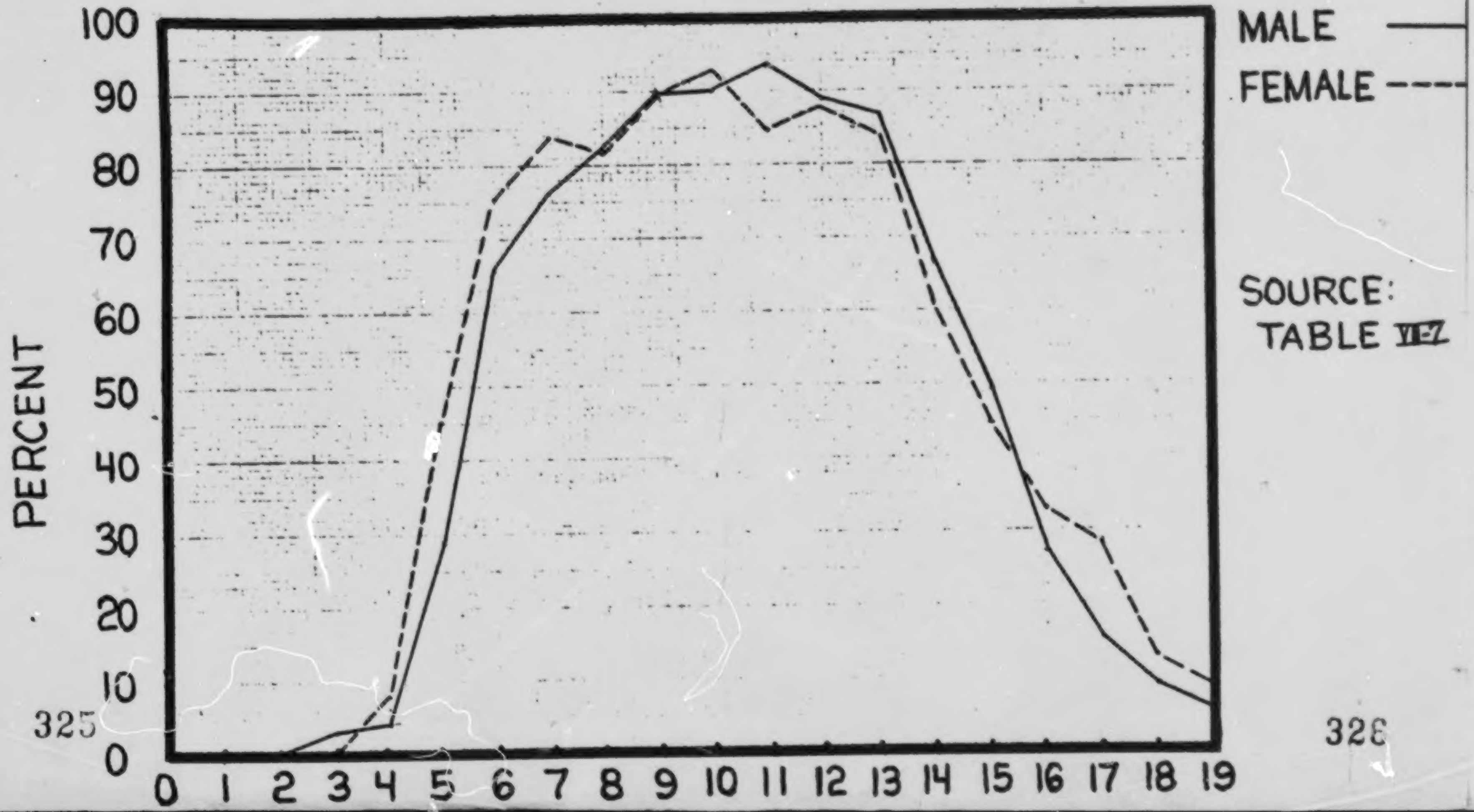
PERCENTAGE OF CHILDREN AGES 0-19 ATTENDING SCHOOL IN EIGHT ESSEX COUNTY TOWNS IN 1860



SOURCE:
TABLE VII-1

GRAPH NO. 4

PERCENTAGE OF CHILDREN AGES 0-19 ATTENDING SCHOOL IN EIGHT ESSEX COUNTY TOWNS IN 1880



SOURCE:
TABLE VII-Z

stressed the importance of remaining in school as long as possible, they did not argue that children should enter school as early as possible.

Our study seeks to explain the pattern of school attendance of children on the basis of their personal characteristics, their family background, and the community in which they lived. It is essential to obtain sufficient information on each of these factors in order to do our analysis. The manuscript census does provide adequate information on the personal characteristics of the children as well as on their community. Unfortunately, family information is not available for all of the children in our sample. For example, we do not have family background information on children who migrated without their parents to these towns in order to seek employment or on children whose parents have died or have abandoned them. Therefore, we decided to restrict our multiple classification anaylsis of school attendance to those children who were living with at least one parent. In this way we could study the relationship between the characteristics of the children's families and the likelihood of their attending school.[13]

Naturally the omission of children who were not living with their parents introduced some biases in our study. Therefore, we compared the school attendance pattern of children in our MCA analysis with those who were omitted (see table No. VII-8 and VII-9 in Appendix A). For children ages 4-8, our MCA sample included approximately ninety percent of the total number of children of those ages of our overall sample. However, for children ages 13-19, our MCA sample included only 72.7 percent of the overall sample in 1860 and 82.1 percent in 1880. The large difference between our overall sample and our MCA sample for children ages 13-19 is due to the large immigration of young people seeking work in Lawrence, Lynn, and Salem. As a result, it is not surprising that a considerably smaller percentage of the older children not in our MCA sample attended school than those who were living with their parents.

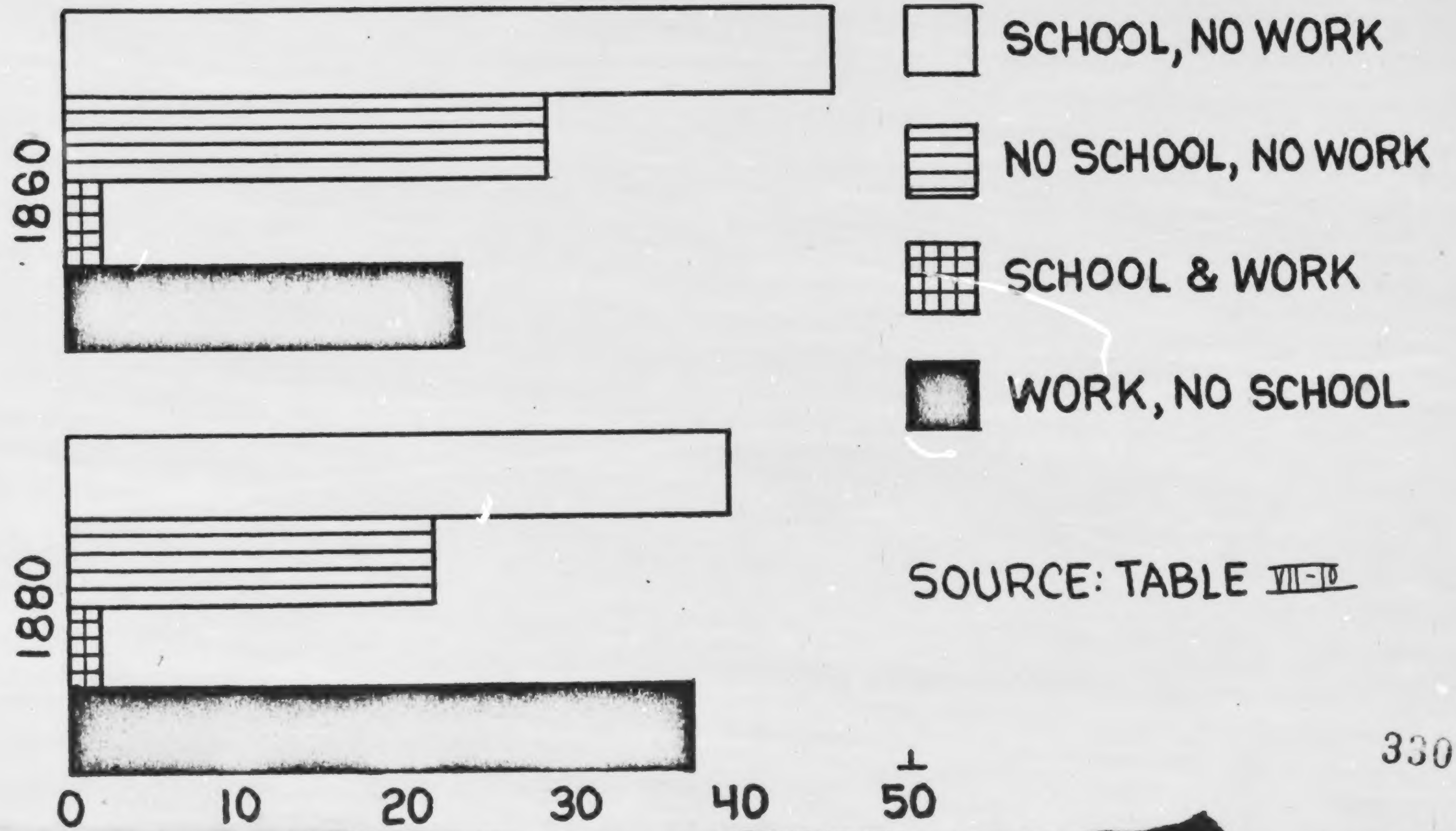
Our study analyzes whether children were attending school during the past year in 1860 and 1880. But what about those children who did not attend school? Can we simply assume that they had left the classroom in order to begin their careers? The data presented in charts number 1 and 2 suggest that there were many older children in our MCA sample who neither attended school nor were gainfully employed.

In 1860, 17.2 percent of the males and 28.6 percent of the females were recorded in the census as being neither in school nor at work. The comparable figures for 1880 are 7.7 percent for males and 21.9 percent for females. Furthermore, if we examine the data in more detail by age and sex, we discover that the proportion of children neither at school nor at work varies inversely by age for females while the pattern for males by age is more erratic (see table No. VII-10 and VII-11 in Appendix A).[14] Though most of our analysis will be devoted to explaining whether children attended school, we have run additional MCA's using work as the dichotomous, dependent variable in order to see how the pattern of school leaving interacts with that of entering the labor force.

B. The Use of Multiple Classification Analysis

CHART NO. 1

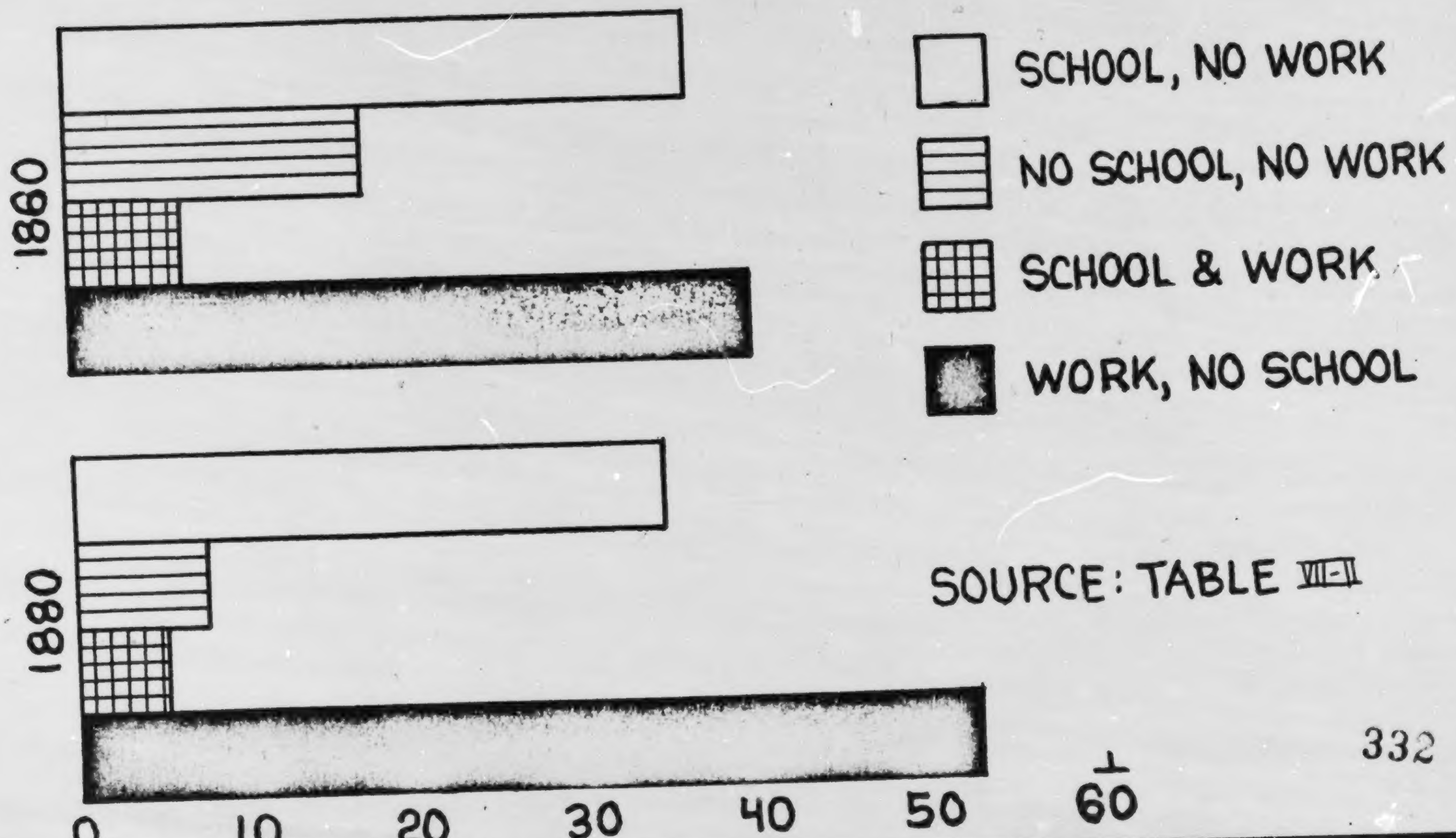
SCHOOL AND WORK PATTERNS OF FEMALES AGES 13-19 IN EIGHT ESSEX COUNTY TOWNS IN 1860 AND 1880



SOURCE: TABLE VII-10

CHART NO. 2

SCHOOL AND WORK PATTERNS OF MALES AGES 13-19 IN EIGHT ESSEX COUNTY TOWNS IN 1860 AND 1880



SOURCE: TABLE VII-II

Because readers of this Chapter may not be familiar with multiple classification analysis, we shall repeat here a brief introduction to this technique, as in Chapter V, for those who are reading the report selectively. Multiple classification analysis (MCA) is a form of multiple regression analysis with dummy variables which expresses results in terms of adjusted deviations from the grand mean of the dependent variable associated with the various classes of the predictor variables.[15] For example, MCA answers the question: how much decrease in average school attendance is associated with being the child of an unskilled laborer, while controlling for such other variables as age of parents, ethnicity, and community? Similarly, it provides an approximate answer to the question: ceteris paribus, what is the effect on youths' school attendance of the family's life course stage as measured by the age of the parents? MCA "controls" for other variables by assuming while it looks at one class of a predictor variable that the distribution of all other predictor variables will be the same in that class as in the total population, thus "holding constant" their effects. Although traditional multiple regression programs also do this, MCA has three advantages: it does not require variables to be interval variables, it does not require or assume linearity and thus can capture discontinuities in the direction of association and, finally, it is useful descriptively because it presents the reader with the gross effects of a predictor class, that is, the actual mean of each class, as well as the mean after adjusting for the influence of other variables.

Although MCA does not assume linearity, it does, like other forms of regression analysis, assume that the effects of the various predictors are additive, that is, independent of one another. In fact, of course, for most variables this is not true. In our sample, for example, children's sex is not correlated with father's occupational status, but ethnicity and occupational status are correlated substantially. However, the problem of the interaction effects of variables can be ascertained both conceptually and empirically and then corrected, if necessary, by creating a new variable that combines those two variables. 16

The statistics generated by MCA analysis provide information to answer a variety of different, but related issues. If one asks how "important" an independent variable (X) is in determining the variation in a dependent variable (Y), the question can mean several things. Most studies that have used MCA have dealt primarily or exclusively on the magnitude and direction of the adjusted means within the classes of a given predictor variable X; that is, they have emphasized the question how much of the difference in Y is attributable to membership in a particular class of X? The statistics that are the most useful in analyzing this issue are the class mean, the adjusted mean, and the net deviation of the independent variables. The class mean (often called the gross mean) is simply the value of the dependent variable for that class or category of that independent variable. The adjusted mean indicates what the mean would have been for that class or category if that group had been exactly like the total population with respect to its distribution over all the other predictor classifications. And the net deviation of a class or category of a predictor variable is simply the adjusted mean minus the grand mean of the dependent variable.

Another question, however, is: how 'important' is the whole predictor variable X_1 compared to predictor variable X_2 or X_n in explaining variation in depdendet variable Y? Here we ask, not how much higher is the attendance rate for professionals' children as opposed to unskilled workers' children, when controlling for other variables, but rather, how much of the variation in attendance rates is explained by father's occupational status, in comparison with the amount of variation explained by a child's ethnicity. To attempt to answer this question we must turn to the predictor summary statistics which provide expressions of each predictor's unadjusted and adjusted contribution to explaining the variance in the dependent variable. A word of caution is in order, however. These statistics are heavily dependent upon the particular distribution of the sample and are not simply comparable across samples. We present them as indicators of the relative importance of our variables in explaining school attendance in each year. The eta^2 statistics are an unadjusted measure of variance explained, that is, they express the zero-order relationship between the predictor variable and the dependent variable. They are thus analogous to the square of Pearson correlation coefficients for interval variables. Our adjusted measure is β, the partial beta coefficient. The rank order of these betas indicates the relative importance of each variable in explaining variance in the dependent variable while controlling for all other included variables. However, beta-squared does not express percent of variance explained.

Finally, we may want to know how much of the total variance of the dependent variable can be accounted for by our series of predictor variables. To measure this we use R^2 adjusted which indicates the proportion of the variance of the dependent variable explained by all the predictor variables together after adjusting for the number of cases, categories, and predictors (i.e. adjusting for the degrees of freedom) that have been used in the analysis.

In order to present the reader with adequate statistical information on our MCA analyses, we will present two tables for each of our major runs. The first table will contain the eta^2s and beta coefficients for each of the predictor variables as well as the overall adjusted R^2. The second table will present the class means, the adjusted means, the net deviations, and the number of cases for each class or category of each of the predictor variables as well as the grand mean and the total number of cases for that particular MCA.

C. School Attendance of Young Children

The continual emphasis that nineteenth-century educators placed on increasing school enrollments has led many to assume that there was a steady rise in the percentage of children attending schools. As we have pointed out in the preceding chapter, however, this is an erroneous impression with regard to the school attendance pattern of young children. Reacting to the warnings of psychiatrists and educators that the premature education of young children might cause them irreparable harm, school officials discouraged parents from sending their very young children to school and often tried to raise the school entrance age.[17]

The school attendance of children ages 4-8 in our sample towns declined sharply from 69.3 percent in 1860 to 54.6 percent in 1880 (see table number 3). Whereas most five year-olds in 1860 attended school, by 1880 only 38.3 percent of them were enrolled. Though there was a significant decline in the enrollment rates in all of these communities, the greatest decline occurred in Lawrence, Lynn, Salem--perhaps reflecting the fact that educators in the urban communities of Massachusetts were often the most concerned about the presence of very young children in their classrooms.

The age of the child was a very important determinant of whether he or she attended school. Even though there was a decline in the percentage of children at each of the ages attending school during this period, age was the single best predictor of school enrollment in our multiple classification analyses for 1860 and 1880 (see table number 2). Thus, though the societal definition of when a child should enter school shifted between 1860 and 1880, school attendance of young children was still basically an age-specific phenomenon.

Though age is the best predictor of the school attendance of young children, it is not the most interesting variable. Instead, educational historians have tried to study the influence of socio-economic factors on school attendance at both the community and household levels. At the household level, these studies seek to determine the relationship between school going and the personal characteristics of the child and his or her family after controlling for the effects of the age of the child. Why is it that some five year-olds attend school while others do not? How much of the variation in school attendance can be explained by the characteristics of the family rather than the community setting in which that family lives?

The relationship between community and attendance of small children was not dramatic. In the 1860 data it is almost nonexistent once we control for the effects of the other variables while in 1880 there was higher school attendance of young children in the rural areas (net deviation= +6.5 percent).

Having an illiterate parent may have imposed a double burden on children: not only would they be less likely to learn to read at home, but they would also be less likely to attend school as young children. The negative relationship between an illiterate parent and school attendance is more pronounced in 1880 (net deviation= -9.5 percent) than in 1860 (net deviation= -4.6 percent). However, it is important to bear in mind that the literacy of the parent is not a major factor in the school attendance of young children in this sample partly because there are so few illiterate parents in the samples.

The sex of the subject has surprisingly little impact on school attendance in this age range. One might have predicted higher rates of school attendance for male children, given the discriminatory attitudes about the appropriateness of education for girls, but in fact the reverse is true in our samples. In both 1860 and 1880, girls attended school in slightly larger percentages than did boys. No compelling explanation emerges from the literary evidence, except the negative finding that comports with our statistical results--school people rarely distinguished between girls and boys in talking about early education needs and abilities. Age, in any case, is a much more important predictor of

Table No. 2

School Attendance in Essex County Towns of Children Ages 4-8 in 1860 and 1880: Eta^2s, Betas, and R^2s

	Eta^2		Beta	
	1860	1880	1860	1880
Age of Child	.4642	.3494	.6588	.5966
Community	.0031	.0136	.0290	.0984
Literacy of Parent	.0024	.0046	.0230	.0448
Sex of Child	.0045	.0036	.0231	.0753
Work/Consumption Index	.0188	0	.0619	.0588
Ethnicity of Child	.0106	.0070	.0452	.0862
Occupation of Parent	0	.0027	.0431	.0439
Age of Parent	.0348	.0172	.0930	.0460

R^2	1860	.4735
	1880	.3757

Table No. 3

School Attendance in Essex County Towns of Children Ages 4-8 in 1860 and 1880: Class Means, Adjusted Means, and Net Deviations

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Child:								
4	13.8	5.8	15.4	5.7	-53.9	-48.9	327	257
5	66.3	38.3	67.1	37.7	- 2.2	-16.9	312	235
6	87.6	69.1	87.0	69.9	+17.7	+15.3	290	246
7	93.9	78.9	93.0	78.9	+23.7	+24.3	262	266
8	95.4	83.4	94.0	83.5	+24.7	+28.9	282	218
Community:								
Salem	66.8	51.0	68.1	52.3	- 1.2	- 2.3	352	255
Lawrence	64.7	53.5	67.7	56.1	- 1.6	+ 1.5	312	333
Lynn	71.3	48.2	71.1	48.0	+ 1.8	- 6.6	355	307
Rural	72.9	64.5	70.0	61.1	+ .7	+ 6.5	454	327
Literacy of Parent:								
Illiterate	58.1	39.1	64.7	45.1	- 4.6	- 9.5	74	64
Literate	69.9	55.4	69.6	55.2	+ .3	+ .6	1399	1158
Sex of Child:								
Male	66.1	51.2	68.3	50.8	- 1.0	- 3.8	755	607
Female	72.7	57.9	70.4	58.3	+ 1.1	+ 3.7	718	615

Table No. 3

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Work/Consumption Index:								
0-19	74.4	56.3	72.6	54.2	+ 3.3	- .4	238	144
20-24	73.5	56.9	71.8	56.2	+ 2.5	+ 1.6	272	202
25-29	62.0	52.4	67.2	54.9	- 2.1	+ .3	303	212
30-34	58.1	53.1	64.2	56.6	- 5.1	+ 2.0	217	194
35-39	79.8	55.6	71.6	51.3	+ 2.3	- 3.3	129	133
40-49	71.9	47.7	69.9	45.7	+ .6	- 8.9	64	86
50 & Above	72.4	56.6	69.1	56.5	- .2	+ 1.9	250	251
Ethnicity of Child:								
1st Generation	73.2	36.5	65.4	37.4	- 3.9	-17.2	41	63
2nd Generation Irish	62.1	51.9	66.7	55.2	- 2.9	+ .6	385	320
2nd Generation Other	61.5	58.6	66.3	58.7	- 3.0	+ 4.1	104	222
3rd Generation & Above	73.0	56.4	70.9	54.5	+ 1.6	- .1	943	617
Occupation of Parent:								
Prof. & Semiprof.	73.2	51.5	68.9	50.3	- .4	- 4.3	190	136
Farmer	70.3	66.7	66.1	58.0	- 3.2	+ 3.4	118	102
White Collar & Skilled	69.0	54.6	68.9	53.4	- .4	- 1.2	672	317
Semiskilled & Unskilled	68.3	54.0	72.3	55.9	+ 3.0	+ 1.3	375	587
Father Absent, Mother Working	63.7	43.3	65.3	53.3	- 4.0	- 1.3	49	30
Father Absent, Mother Not Working	69.6	52.0	66.9	51.5	- 2.4	- 3.1	69	50

Table No. 3

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Parent:								
0-29	43.0	34.7	57.5	49.5	-11.8	- 5.1	142	118
30-34	67.8	51.2	69.9	54.4	+ .6	- .2	363	258
35-39	73.8	59.2	73.6	57.4	+ 4.3	+ 2.8	378	294
40-44	73.2	55.8	68.6	55.3	- .7	+ .7	291	265
45-49	75.4	60.5	70.3	54.4	+ 1.0	- .2	175	167
50 & Above	72.6	59.2	68.6	51.8	- .7	- 2.8	124	120
Total	69.3	54.6					1473	1222

school attendance than sex.

So far we have focused on the community variable and the personal characteristics of the child such as its sex and age. Now we shall try to analyze the effects of the economic circumstances on the family on the attendance pattern of its children.

The most commonly used index of a family's economic situation has been the occupation of the head of the household. We subdivided the occupations of the fathers into four major categories: (1) professionals and semiprofessionals, (2) farm owners and farm proprietors, (3) white collar and skilled workers, and (4) semiskilled and unskilled workers.[18] In addition, since our sample included families with no father present, we subdivided those cases by whether the mother was working.

The relationship of school attendance to the occupation of the parent was not very strong compared to the other variables. The children of semiskilled and unskilled parents were more likely to attend school in both 1860 and 1880; the children of farmers attended school in a higher proportion than the overall average only in 1880. These results suggest that children of parents in the higher status and better paid occupations were being kept out of school longer--perhaps reflecting the growing concern among that segment of society about the adverse effects of sending very young children to school. But since there was not a strong relationship between the occupation of the parent and the school attendance of the child, it would seem that the age at school entry had not become a major issue among the various occupational subgroups of the population.

Though the occupation of the parent is a very useful and important indicator of the economic situation of the family, it is not the only economic data we would like to have. Ideally, we would measure the actual income and consumption needs of the family, as several contemporary studies have done. Unfortunately, such data are unavailable to us historically. We can go beyond just the occupation of the head of household, however, by taking into consideration the number of individuals in the family who are employed as well as the number of consumers within that family.

Since the earning and consuming ability of individuals varies by age and sex, we adjusted our data by a set of weights to take these factors into consideration. Our work/consumption index is therefore a crude measure of the number of working units in each family (excluding the subject) divided by the number of consuming units (including the subject). Though this index does not fully capture the individual family variations in income and consumption needs, it does provide at least a beginning toward measuring a family's economic situation rather than just relying on information on the head of the household.[19]

The work/consumption ratio is a measure of family members working over consumer units within that family. It is an attempt to define the income strategy of a family unit, without reference to the occupational group, which is accounted for elsewhere in the multiple classification analysis. The variable was designed with the older subjects in mind; that is, we wanted to measure whether a low (disadvantageous) work/consumption ratio was associated with a higher probability of teenagers working in our older sample. We did not expect any strong or consistent relationship between the school attendance of young children and the work/consumption index since it was unlikely that any of the children ages 4-8 could be gainfully employed in Essex County at this time in order to supplement the family income.

The results of our MCA runs suggest that there was no consistent relationship between the school attendance of young children and the work/consumption index in 1860 and 1880. There was a slight tendency for the school attendance of children in families with low work/consumption indices to attend school in higher proportions, but that relationship is not consistent in both periods since in 1880 young children in families whose dependency ratio was 0-19 actually were less likely to be in school.

Since a large share of the families with the lowest work/consumption ratios are those with fathers missing, one might speculate that in these families the mother is more likely to work and thus more apt to use school as a custodial institution for her young children. The attendance rates, however, in table number 3 for the variable, the occupation of the parent, do not support this interpretation; the attendance rates of young children in our sample are slightly depressed, not inflated, for families in which the father is absent, and, more important, it makes almost no difference whether the mother is working or not.[20]

Another very interesting predictor variable in our analysis is the ethnicity of the child. Nineteenth-century educators were very concerned about the school attendance of the foreign-born population because they were anxious to assimilate the children of immigrants into American society. The common lament among these educators was that the immigrants did not realize the importance of education for their children since they were unwilling to make the necessary sacrifices to keep them in school. Thus, ethnicity was one of the major determinants of school attendance, according to educational reformers.

Some recent works on the history of education do not accept the notion that ethnicity was a major determinant of school attendance. Rather, these studies point to the importance of class rather than ethnicity in determining whether a child would attend school. They argue that the low school attendance rates of children of foreign-born parents really reflects the fact that most of these parents were concentrated in the low-paying occupations so that it was necessary to send their children to work in order to generate sufficient income for the family's survival.[21]

The ethnicity of the child is not a very important predictor of school attendance of young children compared to the age of that child. Though the beta coefficient of the ethnicity of the child variable is higher than that of the occupation of the parent in both 1860 and 1880, neither of these variables are very strong.[22] In 1860 there is a trend toward slightly higher attendance by young children as we move from first to third generation children, but the only striking rate is that for the first generation children in 1880 who were very low in their school attendance (net deviation= -17.2 percent). Since first generation children were born abroad and are only 4-8 year-olds, these 63 subjects were indeed very new to America. The disruptions of recent immigration may account in part for their depressed attendance rate. The difference between second generation immigrant children and the third-or-more generation Americans (children of native parents) is neither striking nor consistent from 1860 to 1880.

We included the age of the parent as a general index of family life course. Our hypothesis was that parents further along in their careers, up to a certain point, would have more resources (though we expected that this might vary according to the occupation of the parent). Thus, while controlling for the occupation of the head and the work/consumption index for that family, the age of the parent might give us additional information about the economic well-being of the family. The age of the parent may also reflect attitudinal variation since younger parents may be the most likely to have adopted the increasing popular idea that very young children should not be in the schools. The effect of parent's age on the attendance of young children is not linear. There is a substantial negative association between attendance and parent under 30 (net deviation= -11.8 percent in 1860 and -5.1 percent in 1880). For parents ages 30 and above, their young children's attendance increases, controlling for the other variables, to the age category 35-39 and then generally declines. This curvilinear relationship is roughly the same for 1860 and 1880.

Summarizing our findings, we would agree with the reader who may think that the results are in several cases unpatterned or involve relatively small differences in attendance patterns among the different subgroups in our towns. The main conclusion, then, is that age is by far the strongest predictor of school attendance among young children because most children attended school eventually and the age at which they started was somewhat but not drastically affected by family characteristics. At a given age, however, the likelihood of a child's attendance was associated with other predictor variables in the following manner. Rural attendance rates were consistently the highest; but there was considerable variation in the cities, variation which was not consistent over time (most notably the strong drop in Lynn among children ages 4-8 in school between 1860 and 1880). Illiteracy of the parent had the expected negative effect. Girls attended school earlier and in greater numbers than boys, but the difference was not very great. The family's work/consumption ratio had no strong, consistent relationship to school attendance. The occupation of the parent was not a strong predictor of school attendance though children of semiskilled and unskilled parents were enrolled in school in higher proportions than the general population. Contrary to the argument that working mothers used schools for the custody of young children, employed mothers in households without fathers were less likely to send their children to school than the mothers who remained at home in 1860. Ethnicity had an effect only at the extreme of the newly arrived foreign-born children in 1880, who were less likely to attend school; there was no consistent difference in the school attendance by young children of foreign-born parents. The effect of the age of the parent was not dramatic in magnitude and was curvilinearly related to school attendance with the peak occurring for parents ages 35-39 in both 1860 and 1880.

Despite the variations associated with community and family variables, small children in our Essex County towns seem to have had a similar rather than a highly differentiated school enrollment pattern as young children. We now turn to the experience of their teenage contemporaries.

D. School Attendance of Older Children

Youths in late nineteenth-century Essex County had to weigh several factors in trying to decide whether they would remain in school. They could stay in school in the hope of improving their job opportunities in the future--but there was no consensus in that society that continued education was essential for economic success in later life. Their entry into the labor force was not only affected by the number and type of job openings in their community, but also by the economic needs of their families. These youths were beginning to face a world of economic exigencies with their career opportunities often constrained by their membership in a particular subgroup of the population. At the same time, these teenagers were entering a phase of their lives of greater personal freedom and choice--growing independent from their parents as well as independence from the state regulation of their schooling and work. Our data captures only a small part of this interplay between choice and constraint, but it suggests patterns of influence which may have pervaded this crucial transitional period in their life-course.

To investigate the determinants of school attendance of older children, we ran multiple classification analyses in 1860 and 1880 for children ages 13-19 with at least one parent present in the household. As our predictor variables we used the same set of factors employed in our analysis of school attendance of young children in the previous section. The results of these MCA runs are displayed in tables number

4 and 5.

Despite the efforts of professional educators to encourage children to remain in school longer, there was a decline in the percentage of children ages 13-19 attending school from 45.6 percent in 1860 to 40.3 percent in 1880. The overall decline in school attendance was due in part to the drop in the percentage of older children enrolled in both Lawrence and the rural towns and in part to the decline in the percentage of children in our sample from rural communities (which had the highest rate of school attendance) from 35.7 percent of the total sample in 1860 to only 25.7 percent in 1880.

As in our study of younger children, age is the single best predictor of the school attendance of older children (see the beta coefficients in table number 4). Whereas most thirteen year-old children are still in school, by the age of nineteen the overwhelming majority of children have left the classroom. The decline in school attendance by age is very similar in both 1860 and 1880 and only slightly affected by adjusting the results for the effects of the other predictor variables. The finding that school-leaving is largely a function of age is hardly surprising and has surely been true of all societies with voluntary educational systems. Within this context, though, how do other factors influence whether a youth of a given age will have attended school during the past year?

The effect of community on teenage attendance shows a strong, rural bias toward school-going. Both young children and youths went to school at greater rates in the countryside in Essex County, demonstrating perhaps, the greater communal role of the school in rural

Table No. 4

School Attendance in Essex County Towns of Children Ages 13-19 in 1860 and 1880: Eta^{2}s, Betas, and R^{2}s

	Eta^2		Beta	
	1860	1880	1860	1880
Age of Child	.3479	.2881	.5786	.5502
Community	.0627	.0338	.1982	.1010
Literacy of Parent	.0087	.0187	.0233	.0194
Sex of Child	.0500	0	.0226	.0205
Work/Consumption Index	.0089	.0136	.0507	.0960
Ethnicity of Child	.0393	.0606	.1198	.1860
Occupation of Parent	.0450	.0466	.1011	.1181
Age of Parent	.0227	.0037	.0812	.0540

R^2	1860	.4329
	1880	.3802

Table No. 5

School Attendance in Essex County Towns of Children Ages 13-19 in 1860 and 1880: Class Means, Adjusted Means, and Net Deviations

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Child:								
13	87.0	87.4	84.7	86.5	+39.1	+46.2	208	198
14	75.8	65.7	75.8	68.4	+30.2	+28.1	244	236
15	60.8	50.0	60.8	49.6	+15.2	+ 9.3	217	212
16	36.7	31.8	38.0	32.2	- 7.6	- 8.1	196	223
17	20.9	23.4	21.1	23.8	-24.5	-16.5	201	184
18	11.4	13.8	13.4	12.5	-32.2	-27.8	176	218
19	7.0	9.1	6.0	7.9	-39.6	-32.4	171	209
Community:								
Salem	35.3	40.8	36.3	42.7	- 9.3	+ 2.4	317	292
Lawrence	39.6	30.0	46.2	36.9	+ .6	- 3.4	280	434
Lynn	34.1	37.5	34.8	35.2	-10.8	- 5.1	311	373
Rural	62.4	54.6	57.7	47.5	+12.1	+ 7.2	505	381
Literacy of Parent:								
Illiterate	23.4	19.0	40.2	37.4	- 5.4	- 2.9	64	137
Literate	46.6	42.5	45.8	40.6	+ .2	+ .3	1349	1343
Sex of Child:								
Male	43.1	39.6	44.4	39.3	- 1.2	- 1.0	699	750
Female	48.0	41.1	46.7	41.3	+ 1.1	+ 1.0	714	730

Table No. 5

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Work/Consumption Index:								
0-19	47.2	41.5	47.4	42.5	+ 1.8	+ 2.2	271	234
20-24	51.2	43.4	47.0	42.0	+ 1.4	+ 1.7	217	205
25-29	48.2	51.1	47.3	48.2	+ 1.7	+ 7.9	226	237
30-34	36.2	31.0	46.0	34.5	+ .4	- 5.8	174	203
35-39	56.1	45.0	48.5	32.0	+ 2.9	- 8.3	114	131
40-49	43.3	40.0	41.8	39.2	- 3.8	- 1.1	120	120
50 & Above	40.2	34.3	41.7	39.6	- 3.9	- .7	291	350
Ethnicity of Child:								
1st Generation	22.0	17.8	31.8	24.5	-13.8	-15.8	218	258
2nd Generation Irish	45.3	35.7	45.9	36.3	+ .3	- 4.0	86	339
2nd Generation Other	50.0	38.2	44.4	36.9	- 1.2	- 3.4	48	170
3rd Generation & Above	50.2	51.2	48.4	48.8	+ 2.8	+ 8.5	1061	713
Occupation of Parent:								
Prof. & Semiprof.	56.8	56.4	55.3	51.8	+ 9.7	+11.5	213	156
Farmer	63.7	56.0	49.7	41.0	+ 4.1	+ .7	179	150
White Collar & Skilled	46.2	48.9	44.1	46.1	- 1.5	+ 5.8	541	325
Semiskilled & Unskilled	30.0	32.9	39.3	36.8	- 6.3	- 3.5	273	607
Father Absent, Mother Working	33.0	32.2	43.1	35.7	- 2.5	- 4.6	97	59
Father Absent, Mother Not Working	40.9	25.7	45.2	33.0	- .4	- 7.3	110	183

Table No. 5

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Parent:								
0-34	75.0	43.8	58.7	35.8	+13.1	- 4.5	32	32
35-39	60.0	47.0	46.3	35.6	+ .7	- 4.7	150	164
40-44	48.1	42.0	44.0	38.4	- 1.6	- 1.9	339	334
45-49	45.6	42.4	48.6	43.0	+ 3.0	+ 2.7	349	340
50-54	39.4	39.7	44.6	42.2	- 1.0	+ 1.9	310	310
55-59	40.1	35.0	36.7	42.7	- 8.9	+ 2.4	137	160
60 & Above	32.3	30.7	50.5	38.4	+ 4.9	- 1.9	96	140
Total	45.6	40.3					1413	1480

children's lives, as well as the compatibility of schooling and agricultural labor. The greater school attendance in rural areas at the bottom and top of the school-age range accounts in large measure for the higher rural attendance rates in the percentage of persons under twenty attending school.

Comparing 1860 and 1880 figures we note a rough and imperfect convergence of rural and urban school experiences. While the rural towns in Massachusetts approached the urban towns in the length of the school year, the gap between the rates of school attendance began to narrow between rural and urban communities. The picture is more complex when we look at particular towns. For example, teenage school attendance declined in Lawrence while it increased in Lynn and Salem. In addition, attendance rates in a particular community declined from 1860 to 1880, the school enrollment of teenagers increased during that same period.

We anticipated that illiterate parents would be less likely to keep their teenage children in schools--either because they valued education less or because they were more likely to be financially disadvantaged compared to literate parents and therefore more dependent upon the supplementary income their children could provide. Although it is true that children of illiterate parents were less apt to continue their education in both 1860 and 1880, we note again that this variable is not very important compared to the other predictor variables in those years--in part due to the small number of illiterate parents in our samples.

Many of our hypotheses are concerned with the effects of the economic circumstances of the family on the school attendance of its children. We will first focus on the occupation of the parent. The classes under this predictor variable do not form one simple hierarchy. Farming was so common to the small towns and so unusual in the cities that this designation relates to community as well as to status and will be discussed separately. The father-absent categories are not an occupational status but rather summarize the experience of subjects without a father to bring home any income. Our three hierarchically-ranked occupational categories, then, are: professional and semiprofessional. white collar and skilled, and semiskilled and unskilled.

The three ranked categories of father's occupation display a consistent relationship to school attendance. Youths age 13-19 whose fathers were professionals or semiprofessionals attended school at the highest rates while those whose fathers were in the semiskilled or unskilled occupations were least likely to enroll. The causes of these levels of school attendance by occupational status are multiple, plausible, and somewhat obvious. Higher status families enjoyed more income on the average and could therefore afford the luxury of extended education for their children. Related to this, it may be that families in higher status occupations placed a greater value on extended education. This attitudinal factor may be associated with occupational groups but may operate independently from income *per se*. Thus one might speculate, for example, that an ill-paid struggling doctor might press harder for extended education for his children than a relatively affluent factory foreman, simply because extended education played a larger role in the expected career pattern of the former's children than the latter's. Different constructions may be put upon this attitudinal influence. Michael Katz, for example, argues that middle and upper status parents were increasingly looking to secondary education in the nineteenth century as a means of transferring their status to their children in a world where such status was increasingly difficult to transfer merely by ascription.[23] It may have been, however, more than just an arbitrary credentialling process. Secondary education may have actually transmitted skills that were more useful for children who aspired to middle and upper status jobs. The clearest example of this is teaching as a career goal for girls, as Katz points out. For boys, advanced writing and reading skills might have been prerequisites to professional and white collar occupations. For any and probably all of these reasons, children of upper status fathers stayed in school longer as teenagers.[24]

The school attendance of farm children is not only influenced by their father's occupation, but also by the fact that they lived in rural communities where children remained longer in school than their urban counterparts, The overall rate of school enrollment of farm children is substantially higher than that of any other occupational group in 1860 and is only slightly lower than that of children of professionals and semiprofessionals in 1880. When we control for the effects of the other variables, the school attendance of farm children is still very high but is significantly less than that of children of professionals and semiprofessionals in 1860 and 1880 and also lower than that of children of white collar and skilled workers in 1880.

In fatherless families the mother's work status (which had little impact on young children's school attendance) had a strong negative association with teenage school attendance in 1880. The net deviation for fatherless families with the mother working was a -4.6 percent in that year whereas the net deviation for fatherless families with the mother not working was -7.3 percent. The effect was less pronounced in 1860 but went in the same direction. We may infer from these findings that families without fathers were more likely to send their children to work and that if the mother in those families was not working, the teenage children would be even more likely to have left school for work.

In addition to the occupations of the parent, we again used the family's work/consumption ratio as another measure of economic well-being (see the extended discussion of the work/consumption ratio in the preceding section). The work/consumption index is an effort to measure crudely the relationship between the family's available income and their consumption needs after controlling for the effects of the occupation of the parent in our multiple classification analysis.

We hypothesized that the higher (i.e. more advantageous) the work/consumption ratio of the family, the more likely the child would remain in school rather than enter the labor force to supplement the family's income. The results of our analysis indicate just the opposite—the higher the work/consumption ratio, the less likely a child is to attend school—though the overall importance of the work/consumption variable in our MCA runs is not very strong. This is a surprising result since it implies that those families which most needed income from their teenage children allowed them to remain in school.

Because our attempt to construct a crude family work/consumption ratio is an innovation and because that ratio did not predict school attendance as we had anticipated, we devoted considerable effort to further check our results. We reran the MCA's without the children whose fathers were absent in order to eliminate the possibility that our results had been distorted by the presence of fatherless families which were concentrated in the lowest categories of the work/consumption ratio. In addition, we reran our MCA's by occupational groups such as the white collar and skilled workers, and semiskilled and unskilled workers to see if the pattern of the work/consumption ratio varied by these occupational groupings. None of these tests explained satisfactorily the inverse relationship between the work/consumption ratio and teenage school attendance in our basic MCA runs for 1860 and 1880.

There are several possible explanations for our results using the work/consumption ratio. Since the same work/consumption ratio does operate in the anticipated direction in predicting the probability of women working, it may suggest that families did not expect their teenage children to leave school prematurely simply because the family was encountering economic difficulties. Or, more likely, since not all children who left school went directly into the labor force, our measure of school-leaving is not as dependent on economic considerations within the family as predicting children's entry into the labor force. Another plausible explanation is that father's occupational status does not control adequately for the actual economic situation of the family. Therefore, if any of the other members of the family had to work besides the father, it might be an indication of the extent of the economic distress within that family even though the family's work/consumption ratio would seem favorable. A fourth possibility is that families which sent other members besides the father into the labor force (and thereby improved their work/consumption ratio) may not have valued education very highly and therefore were willing to have their other children also drop out of school and work. Obviously, we cannot solve this problem at this time. We hope that other students of family behavior in the past will continue to develop indices, such as our work/consumption ratio, which try to measure the economic situation of the entire family rather than relying only on the occupation of the head of household or the size of the family. In the meantime, our results do not support the notion that older siblings worked in order that younger siblings could remain in school longer; rather they suggest that schoolgoing was less likely when more members of the family were working.

In addition to the influence of the economic circumstances of the family on the school attendance of their older children, we anticipated that the children of foreign-born parents would be less likely to attend school than those of native parents--either because foreign-born parents valued education less or because they needed the economic resources of their children's labor more. Our MCA runs indicate that ethnic status had a clear linear relationship to school attendance. the longer a child and his parents had been in America, the more likely the child would attend school as a teenager, even when controlling for occupational status and other economic variables. The results for 1860 and 1880 are consistent and the net deviations strongly differentiate the subgroups on attendance. In both 1860 and 1880 the ethnicity of the child was a stronger predictor of his or her school attendance than the occupation of the parent.

We included the age of the parent in our MCA runs in an attempt to approximate the life-course situation of the family. We anticipated a curvilinear relationship between the age of the parent and the school enrollment of their teenage children with low attendance rates in the early and late stages of the family when the income of most families might have been the most strained. Unfortunately, the results of our analysis for 1860 and 1880 did not reveal any consistent pattern.

We then speculated that the lack of any consistent pattern in the age of the parent may have been due to the fact that the income profiles of wage-earners differs by occupation. Therefore we ran separate MCA's for white collar and skilled workers, and for semiskilled workers. The results partly confirmed our hypothesis. The adjusted school attendance in 1880 of 13-19 year olds whose fathers were white collar or skilled workers was directly related to the age of the parent--a relationship that probably paralleled the earning profile of those families. However there was no single consistent age pattern for the white collar and skilled workers in 1860. Similarly, the adjusted school attendance of children ages 13-19 in 1860 whose fathers were semiskilled or unskilled workers varied inversely with the age of the parent. In 1880 the pattern of school attendance of older children whose parents were semiskilled or unskilled workers was not consistent. As a result, we cannot conclude that our crude measure of the life course of these families was a good predictor of the school attendance of their older children. Hopefully future studies will be able to improve our estimate of the life-course situation of the family by obtaining more detailed information on the actual conditions and past experiences of those families than can be approximated by the age of the parent.

E. Interaction: Ethnicity and Occupation

Multiple classification analysis, like other forms of multiple regression, does not analyze well the impact upon a dependent variable of two or more variables which are highly correlated. The most serious interaction problem involved in the present study is the overlap between ethnicity of the child and the occupation of the parent, both because of the degree of overlap and the importance of the question. The problem is not only statistical but conceptual and historical as well. The issue is profound, and we can only briefly state here this perspective, from which we interpret our material on education.

The conceptual problem is to define the relationships between the ideas of culture and class. It will not do to think of culture--including religion and ethnicity--as an isolated sphere in one's identity and motivation, independent of the social structure and the distribution of goods. Obviously, culture is related to and interacts with social structure, partly arising from it, partly acting upon and shaping it. But culture is neither the same as social structure nor a mere epiphenomenon determined by it, because there can be (and constantly are) lags, discontinuities and diversity in the interaction of culture and social structure. Nor is culture associated only with ethnicity and religion, or opposed to the construct "class." However, we can and should distinguish between culture and the social structure.

The language, the imagery, the prejudices, the aspirations, and the daily customs which fall under the rubric of culture-- whatever their relationship to the social structure in which they arose-- may stubbornly persist when transported to a new social structure, or as technology, politics or other developments transform social structure. One of the failings of functionalist, equilibrium approaches to history is that they underestimate the conflictual, "dysfunctional' relationship of culture and the social system.

In what sense, then, is economic motivation more fundamental than cultural baggage in the actions of ordinary people, who are the stuff of the 'new' social history? Because life requires sustenance, the closer an actor gets to rudimentary subsistence-- a threshold toward which vast numbers of people in human history have been pressed--the more salient will become straightforward economic strategies, and the more potently will these overrule competing inclinations like an abstract value on education or sanctions against women's work. Obviously, the formula is not predictive. Given the range of human diversity and the complexity of motivation, some individuals will approximate the calculative economic man while others in the same position will doggedly pursue a course opposed to their economic self-interest because they are imbued with a cultural commitment. Choices are constrained, of course. Many plain folk of the past did not have the latitude to pursue either their economic well-being or cultural preferences. The constraints imposed by others, once again, are themselves both economic and cultural.

In addition to this conceptual problem, ethnicity and class are related to the minds of the historical actors, and they are often mutually reinforcing. If we could go back in a time machine to interview an Irish laborer in Lawrence in 1880, inquiring why his 13 year-old son had not attended school during the previous year, he might tell us that the public schools are insulting, that they turn kids away from the church, that parochial schools cost too much, that the family needs his son's mill wages, that his son doesn't need extended education, and that anyway the boy prefers the factory to the school. The father might be baffled as to which reason is the most salient, or whether he and his son are more motivated by "class" or "ethnicity," since all the factors reinforce the same behavior. This is analogous on the individual level to the statisticians' advice for the aggregate level: "If two correlated predictors each explain a portion of the variance in a dependent variable ... either predictor can do equally well for this part of the variance."[24a]

This returns us to the statistical problem. One approach to assessing the independent impact of ethnicity (defined here by country of birth) and class (defined here by occupational group) is to explore the cases or groups where the two factors do not combine in the same way. An analysis of the distribution of occupations among ethnic categories for our samples shows that there is substantial but not complete overlap. Farmers and professionals are overwhelmingly native, and immigrants are disproportionately laboring class. Is our ethnicity variable, then, simply reflecting an economic phenomenon? One technique for sorting out the interaction in MCA analysis is to combine the related variables, as we have done in the MCA analyses presented in tables number 6 and 7.

Except for the combined ethnicity-occupation variable, the analysis is the same as that presented earlier in tables number 4 and 5. By dividing our middle and lower occupational groups into native and foreign-born fathers, we can demonstrate the independent effect of ethnicity. For example, the net deviations on teenage school attendance in 1880, in rank order, are as follows. native white collar and skilled, +20.5 percent; native semiskilled and unskilled, +3.5 percent; foreign white collar and skilled, -6.7 percent, foreign semiskilled and unskilled, -11.2 percent. It may be that within each broad category foreign-born children's fathers are concentrated nearer the bottom; nevertheless, foreign-born children of white collar and skilled workers attended school at substantially lower rates than native children of semiskilled and unskilled workers. The same pattern prevailed in 1860. Clearly, something is operating here besides occupational status. Several factors may explain the association of immigrant status with lower attendance. For example, the level and role of schooling in some of the societies from which the immigrants came probably made them less oriented toward extended formal education than the American-born population. In addition, the public schools were biased against foreigners and Catholics. To the extent that there was alienation from schooling among the working class Americans in the nineteenth century it was probably greater among the foreign born rather than the native population. Whatever the reasons, some aspects of ethnic status operated independently of occupational status in schooling decisions.

IV. Conclusion

Our data yields information about participation rates at different ages and thus about the transitional processes of entering and leaving school. Although family and economic variables somewhat influenced the timing of those transitions, both decisions, and particularly school entry, were governed very strongly by the subject's age. The aggregate transition from 20 percent attending to 80 percent attending was accomplished in three years. School leaving was somewhat more spread out along the teenage portion of the life course and was thus more associated with other characteristics we could measure. Nonetheless, the transition from 80 percent attending to 20 percent attending was made in four years.[25]

This generalization should not be allowed to obscure differential school experiences by different groups. There were surely substantial differences in the quality and the quantity of education consumed by different groups in nineteenth-century Essex County, differences that are not related in our crude data on school entry and school leaving. Nor do we wish to minimize the differences that do appear in our data, particularly the group differences in the age of school leaving.

Our conclusion, rather, is that not only was entry age virtually uniform, but that participation in the ages 9-12 was virtually universal. Rudimentary schooling was an established, uniform feature of American childhood by 1860 and probably long before. Robert Rantoul, urging state intervention in common schooling in the late 1830's, argued that "we have a right...to be brought equally and together up to the

Table No. 6

School Attendance in Essex County Towns of Children Ages 13-19 in 1860 and 1880: Eta²s, Betas, and R²s

	Eta²		Beta	
	1860	1880	1860	1880
Age of Child	.3479	.2881	.5817	.5541
Community	.0627	.0338	.2016	.1077
Literacy of Parent	.0087	.0187	.0303	.0459
Sex of Child	.0018	0	.0237	.0185
Work/Consumption Index	.0089	.0136	.0514	.0920
Ethnicity & Occupation Combined	.0529	.0739	.1607	.2259
Age of Parent	.0227	.0037	.0816	.0543

R^2		
	1860	.4303
	1880	.3806

Table No. 7

School Attendance in Essex County Towns of Children Ages 13-19 in 1860 and 1880: Class Means, Adjusted Means, and Net Deviations

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Child:								
13	87.0	87.4	85.1	87.1	+39.5	+46.8	208	198
14	75.8	65.7	76.0	68.6	+30.4	+28.3	244	236
15	60.8	50.0	60.6	49.2	+15.0	+ 8.9	217	212
16	36.7	31.8	37.9	31.8	- 7.7	- 8.5	196	223
17	20.9	23.4	21.1	23.3	-24.5	-17.0	201	184
18	11.4	13.8	13.0	12.5	-32.6	-27.8	176	218
19	7.0	9.1	6.0	8.2	-39.6	-32.1	171	209
Community:								
Salem	35.3	40.8	37.1	42.4	- 8.5	+ 2.1	317	292
Lawrence	39.6	30.0	44.2	35.3	- 1.4	- 5.0	280	434
Lynn	34.1	37.5	34.7	36.6	-10.9	- 3.7	311	373
Rural	62.4	54.6	58.3	48.2	+12.7	+ 7.9	505	381
Literacy of Parent:								
Illiterate	23.4	19.0	38.6	33.3	- 7.0	- 7.0	64	137
Literate	46.6	42.5	45.9	41.1	+ .3	+ .8	1349	1343
Sex of Child:								
Male	43.1	39.6	44.4	39.4	- 1.2	- .9	699	750
Female	48.0	41.1	46.7	41.3	+ 1.1	+ 1.0	714	730

Table No. 7

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Work/Consumption Index:								
0-19	47.2	41.5	47.0	42.8	+ 1.4	+ 2.5	271	234
20-24	51.2	43.4	47.5	42.5	+ 1.9	+ 2.2	217	205
25-29	48.2	51.1	46.8	47.6	+ 1.2	+ 7.3	226	237
30-34	36.2	31.0	45.9	34.9	+ .3	- 5.4	174	203
35-39	56.1	45.0	49.2	32.4	+ 3.6	- 7.9	114	131
40-49	43.3	40.0	42.2	38.4	- 3.4	- 1.9	120	120
50 & Above	40.2	34.3	41.6	39.3	- 4.0	- 1.0	291	350
Ethnicity & Occupation Combined:								
Prof. & Semiprof.	56.8	56.4	57.0	56.1	+11.4	+15.8	213	156
Farmers	63.7	56.0	51.6	46.5	+ 6.0	+ 6.2	179	150
White Collar & Skilled (Foreign-Born)	32.7	35.5	36.3	33.6	- 9.3	- 6.7	98	169
White Collar & Skilled (Native-Born)	49.2	63.5	46.9	60.8	+ 1.3	+20.5	443	156
Semiskilled & Unskilled (Foreign-Born)	25.0	27.0	29.2	29.1	-16.4	-11.2	164	407
Semiskilled & Unskilled (Native-Born)	37.6	45.0	44.8	43.8	- .8	+ 3.5	109	200
Father Absent, Mother Working	33.0	32.2	39.8	37.0	- 5.8	- 3.3	97	59
Father Absent, Mother Not Working	40.9	25.7	46.7	32.9	+ 1.1	- 7.4	110	183

Table No. 7

	Class Mean		Adjusted Mean		Net Deviation		Number of Cases	
	1860	1880	1860	1880	1860	1880	1860	1880
Age of Parent:								
0-34	75.0	43.8	58.8	35.2	+13.2	- 5.1	32	32
35-39	60.0	47.0	46.3	35.8	+ .7	- 4.5	150	164
40-44	48.1	41.9	43.8	38.6	- 1.8	- 1.7	339	334
45-49	45.6	42.4	48.9	43.3	+ 3.3	+ 3.0	349	340
50-54	39.4	39.7	44.4	41.7	- 1.2	+ 1.4	310	310
55-59	40.1	35.0	37.0	42.8	- 8.6	+ 2.5	137	160
60 & Above	32.3	30.7	50.4	38.1	+ 4.8	- 2.2	96	140
Total	45.6	40.3					1413	1480

starting point at the public expense; after that we must shift for ourselves.' By mid-century school systems had been established in the North and West that implemented this faith. Beyond Rantoul's "starting point", however, from the age of 13 and beyond, youth began experiencing choices, sometimes forced choices, between work and school. Even teenagers from native and middling ranks, though they had higher attendance rates than their immigrant and working class contemporaries, were not attending school nearly as long as they did forty years later, when the high school had become a mass institution. Despite the lack of compulsory legislation, length of schooling was not as widely varied in late nineteenth-century Massachusetts as one might have predicted. But a small difference can mean a lot, not because education is so precious, but because the marginal choices were shaped by cultural differences and economic exigencies. Whatever was learned in school, school leaving taught Essex County youth something about how their world was ordered.

Footnotes

[1] The census schedules for 1860 and 1880 did not ask identical questions on the occupation of individuals. In 1860, the census asked: 'Profession, occupation, or trade of each person, male or female, over 15 years of age.' In 1880, the census asked of each person 10 years of age and up. 'Profession, occupation, or trade of each person, male or female: in addition the number of months this person has been unemployed during the census year.'

Some of the census enumerators in 1860 did record the ages of working children between the ages of 10-15 while other enumerators did not record that information. Therefore, one should be very cautious about trying to compare the rates of labor force participation for children ages 10-15 between 1860 and 1880.

Instructions for these censuses can be found in C. D. Wright and W. C. Hunt, History and Growth of the United States Census (Washington D.C., 1900). For useful discussions about the meaning of questions relating to labor force participation in this period, see Solomon Fabricant, 'The Changing Industrial Distribution of Gainful Workers: Comments on the Decennial Statistics, 1820-1940,' in Studies in Income and Wealth (Vol. XI, New York, 1949), pp. 3-45; P. K. Whelpton, 'Occupational Groups in the United States, 1820-1920,' Journal of American Statistical Association, XXI, No. 155 (1926), 335-343.

[2] Studies of nineteenth-century school attendance at the individual level include Selwyn K. Troen, 'Popular Education in Nineteenth-century St. Louis,' History of Education Quarterly, XIII (Spring 1973), 23-40; Michael B. Katz,
'Who Went to School?' History of Education Quarterly, XII (Fall 1972), 432-454; Frank Denton and Peter George, 'Socio-Economic Influences on School Attendance: A Study of a Canadian County in 1871," History of Education Quarterly, XIV (Summer 1974), 223-232. The latter prompted a debate found in Michael B. Katz, 'Reply,' ibid., 233-234; Frank Denton and Peter George, 'Socio-Economic Influences on School Attendance: A Response to Professor Katz,' ibid., XIV (fall 1974), 367-369; Daniel H. Calhoun, 'Letter to the Editor,' ibid., XIV (Winter 1974), 545-546.

Studies of nineteenth-century school attendance at the aggregate level include Albert Fishlow, 'The American Common School Revival: Fact or Fancy?' In H. Rosovsky, ed., Industrialization in Two Systems: Essays in Honor of Alexander Gerschenkron (New York, 1966). For comments on the Fishlow study and an analysis of Massachusetts statistics which controls for age, see Maris A. Vinovskis, 'Trends in Massachusetts Education, 1826-1860,' History of Education Quarterly, XII (Winter 1972), 501-529. For an analysis of the determinants of school attendance, see Carl F. Kaestle and Maris A. Vinovskis, 'Quantification, Urbanization, and the History of Education: An Analysis of the Determinants of School Attendance in New York State in 1845,' Historical Methods Newsletter, VIII (December 1974), 1-9. See also Alexander J. Field, 'Educational Reform and Manufacturing Development in Mid-Nineteenth Century Massachusetts," (unpublished Ph.D. dissertation, Berkeley, 1974).

[3] Since the various studies to be made of this population all deal with family history, we omitted individuals in institutions and in boarding houses (defined as households with 13 or more unrelated members).

[4] Massachusetts Laws, 1836, chapter 245; 1838, chapter 107; 1842, chapter 60; 1850, chapter 294; 1852, chapter 240..

[5] Forest C. Ensign, *Compulsory School Attendance and Child Labor* (Iowa City, 1931); John W. Perrin, *The History of Compulsory Education in New England* (Meadville, Pennsylvania, 1876). For contemporary documents on this issue, see especially Henry K. Oliver, *Report of Henry K. Oliver, Deputy State Constable, Especially Appointed to Enforce the Laws Regulating the Employment of Children...* (Boston, 1869).

[6] Massachusetts Laws, 1867, chapter 285; 1873, chapter 262; 1873, chapter 279; 1874, chapter 233; 1876, chapter 52; 1876, chapter 257.

[7] Bureau of Statistics of Labor, *Annual Report, 1870* (Senate Document #120), pp. 135-140. See also George E. McNeill, *Factory Children. Report on the Schooling and Hours of Labor of Children Employed in the Manufacturing and Mechanized Establishments of Massachusetts* (Boston, 1875), p. 4. This report is Senate Document #50 for 1875.

[8] Wenham School Committee, *Annual Report, 1880.*

[9] Lawrence School Committee, *Annual Report, 1880*, p. 39; Massachusetts Bureau of the Statistics of Labor, *Annual Report, 1883.*

[10] Lynn School Committee, *Annual Report, 1880*, p. 29.

[11] Massachusetts Board of Education, *Annual Report, 1879-80*; Salem School Committee, *Annual Report, 1880* (Salem, 1881), p. 95.

[12] These trends are discussed at length in Chapter above.

[13] In addition to eliminating all children without at least one parent present, we also did not use the few children whose father's occupation was not given. The inclusion of these children in our analysis would have created statistical problems in constructing another occupational category based on so few cases.

[14] It is important to remember that the census schedules in 1860 and 1880 did not ask the same questions about occupation; it is almost certain that the percentages of children ages 13-19 who are working was more underestimated in 1860 than in 1880 because of the

differences in the census questions. (See footnote number 1).

[15] For an excellent, well-written introduction to multiple classification analysis, see Frank M. Andrews, J. N. Morgan, John A. Sonquist, and Laura Klem, *Multiple Classification Analysis,* 2nd edition (Ann Arbor, 1973). Demographers and sociologists have long used MCA. For example, see Otis Dudley Duncan, "Residential Areas and Differential Fertility," *Eugenics Quarterly,* XI (1964-65), 82-89, and, more recently, James A. Sweet, *Women in the Labor Force* (New York, 1973). Step-wise MCA may be used when a group of predictors is logically prior to others; cf. Allan Schnaiberg, "The Modernizing Impact of Urbanization: A Causal Analysis," *Economic Development and Cultural Change,* XX (October 1971), 80-104.

[16] For a detailed discussion of the interaction problem, see John A. Sonquist, *Multivariate Model Building: The Validation of a Search Strategy* (Ann Arbor, 1970).

[17] For a discussion of the reactions of educators to young children in school in the early nineteenth century, see Dean May and Maris A. Vinovskis, "'A Ray of Millenial Light': Early Education and Social Reform in the Infant School Movement in Massachusetts, 1826-1840," in *Family and Kin in American Urban Communities,* 1850-1940, ed. Tamara K. Hareven (New York, 1976); and Chapter VI above.

[18] The categories employed for each occupation are based on Stuart Blumin's classification. We are indebted to Professor Blumin for making his classification available to us. See Stuart M. Blumin, "Rip Van Winkle's Grandchildren: Family and Household in the Hudson Valley, 1800-1860," *Journal of Urban History,* I (May 1975), 293-315. We have aggregated the professional and semiprofessionals because the latter category was too small. Similarly, we have combined skilled workers, a small category, with the lower level white-collar workers.

The entire issue of categorizing occupations in the nineteenth century using census data is very complex. For a good introduction to these issues, see Michael B. Katz, *The People of Hamilton, West: Family and Class in a Nineteenth Century City* (Cambridge, 1976), Chapters 3 and 4. See also Stuart Blumin, "The Historical Study of Vertical Mobility," *Historical Methods Newsletter,* I (September 1968), 1-13; Clyde Griffen, "Occupational Mobility in Nineteenth-Century America: Problems and Possibilities," *Journal of Social History,* V (Spring 1972), 310-330; Michael B. Katz, "Occupational Classification in History," *Journal of Interdisciplinary History,* III (Summer 1972), 63-88; Theodore Hershberg, et. al., "Occupation and Ethnicity in Five Nineteenth-Century Cities: A Collaborative Inquiry," *Historical Methods Newsletter,* VII (June 1974), 174-216.

[19] Our effort to develop a work/consumption ratio for the family

was greatly influenced by the use of such variables in contemporary sociological studies. For example, see Sweet, *Woman in the Labor Force*; James N. Morgan, *Five Thousand American Families: Patterns of Economic Progress* (Ann Arbor, 1974), Vols. I & II.

For the numerator of the family work/consumption ratio we calculated the number of equivalent male adult workers in the family. Relying on very crude estimates based on various studies of wage-earners for the late nineteenth century, we used the following weights:

Age	Male	Female
10	.1	.1
11	.2	.2
12	.3	.3
13	.4	.4
14	.5	.5
15	.6	.6
16	.7	.6
17	.8	.6
18	.9	.6
19	1.0	.6
.	.	.
.	.	.
.	.	.
99	1.0	.6

The weights used in the denominator of our work/consumption index were derived after examining the consumption figures presented by Peter Lindert in his *Scarcity and Fertility in America* (forthcoming). Lindert assembled information on consumption patterns from a variety of late-nineteenth and early twentieth century surveys of family expenditures. The weights used were .55 for children ages 0-4, .65 for children ages 5-9, .75 for children ages 10-14, and 1.0 for everyone 15 and above.

Admittedly, our weights for both workers and consumers are very crude. Though some of these weights may be improved when more detailed studies of nineteenth-century family budgets become available to us, any weighting scheme which provides a set of weights distinguished only by sex and age for occupations and consumption patterns must of necessity be very crude. However, we do feel that these weights are reasonable and useful approximations that do provide additional data on a family's economic situation beyond knowing the occupation of the head and/or the total number of members in that family.

The definition of our work/consumption index is identical to that used in Karen Mason, Maris A. Vinovskis, and Tamara K. Hareven, "The Participation of Women in the Labor Force and the Life Course" (forthcoming in the *Journal of Family History*). However, since the particular computer program that we were using (OSIRIS) truncated the results of computer ratios to integers, it was necessary to multiply our work/

consumption index by 100 in order to have our results accurate to at least two decimal places. Furthermore, since the OSIRIS MCA program does not allow interval independent variables, it was necessary for us to categorize our work/consumption index. As a result, though the work/consumption index in this paper is identical to the one utilized in the Mason, Vinovskis, and Hareven paper, it appears to be slightly different since the programming for the women's work paper did not use the OSIRIS package and therefore did not have to multiply the index by 100 or to subdivide it into categories.

[20] Our results are somewhat analogous to Michael Katz's for Hamilton, Ontario, in 1851 and 1861. He discovered a discontinuity in the negative association between school attendance and economic status; it was reversed for the youngest children. Laborers, and families without servants, sent the fewest youngest children to school except in the youngest age categories. Schools, concluded Katz, "provided the mother with someplace to send young children when she went to work." Katz, "Who Went to School?" *History of Education Quarterly*, 441-444. Katz did not consider the possibility that there was a shift in attitudes toward young children being educated in Canada that might have encouraged parents in the higher status occupations to be the first to delay sending their very young children into the classroom.

In our study, very few mothers worked and therefore the custodial advantages of early childhood education were not as important to most of our population. The constraints upon present day women working if they have children are outlined in Sweet, *Women in the Labor Force*, p. 113. These constraints are: the psychological and cultural compulsion to care for one's own children, the lower rate of return on work if one must pay for child care, and the sheer inability of some mothers to arrange child care. These factors probably operated to some degree in the nineteenth century as well, but there was a much stronger feeling that married women should not work than there is today (Mason, Vinovskis, and Hareven, "Women's Work")

[21] Katz, "Who Went to School" states "It was the poverty that accompanied laboring status and not Catholicism or Irish birth that did most to keep children out of school." Troen, "Popular Education in St. Louis," concludes that "class became the most important parameter." See also, Samuel Bowles and Herbert Gintis, *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life* (New York, 1975).

[22] Second and third generation status was determined by the subject's father if present, mother if not.

[23] Michael B. Katz, at the Michigan Conference on radical school reform, Ann Arbor, Michigan, March 1974. For Katz's view of the other functions of secondary education for the middle class in mid nineteenth-century Massachusetts, see his *The Irony of Early School Reform* (Cambridge, Massachusetts, 1968), pp. 91-93.

[24] Ibid. Nonetheless, it should be emphasized that even in the middle and upper groups the attendance rates for teenagers were not nearly as high as modern rates for the same groups.

[24a] Andrews, Multiple Classification Analysis. p. 48.

[25] For changes in the length of these transitions from 1880 to 1970, see John Modell, Frank Furstenberg, and Theodore Hershberg, "Social Change and Life Course Development in Historical Perspective," Journal of Family History (forthcoming).

CHAPTER VIII

EDUCATION IN A NINETEENTH-CENTURY RURAL COMMUNITY: THE CASE OF BOXFORD, MASSACHUSETTS

By Martha Coons

"In speaking of Boxford, it is more natural to tell first of its woods, ponds, and brooks, because there are so many more of them."[1] So wrote George Herbert Palmer of the tiny, quiet farming community in central Essex County in which he grew up. Nineteenth-century Boxford, with its thick, white pine forests interspersed with ponds and marshes, and its sandy, stony open fields, could have been the home of the archtypical sturdy New England yeoman. Touched only lightly by the industrial revolution, gradually declining in size and prosperity as the glitter and promise of factories and western lands lured its young people away, this rural town--like its educational institutions--was slow to innovate, quick to defend its peaceful, isolated way of life.

Throughout the nineteenth century, Boxford's people remained both ethnically homogeneous and widely scattered geographically. Almost all were either native Americans or immigrants from northern and western Europe. The 4.5 per cent of Boxford's population that was foreign born in 1855 grew to 6.2 per cent by 1875 and 11.0 per cent by 1895; of these, between 86 and 96 per cent were either British Americans or natives of the northern and western European nations (see Table 1). Unlike many Massachusetts towns, Boxford never developed enough industry to attract many members of other immigrant groups. The great majority of her citizens were farmers. Even when Boxford reached its peak of manufacturing development, in 1875, 48 per cent of its men were listed in the census as farmers; of the 40 per cent listed as employees of manufacturing and mechanical industries, most were, in fact, probably farmers who worked part-time in shoemaking or other enterprises, often in their own homes. Doctors, lawyers and ministers, too, were part-time farmers. Somewhat over a hundred in number, Boxford's farms were spread over 13,500 acres, divided into a west and an east parish served by two small town centers located about five miles apart (see Maps 1 and 2).[2]

Boxford's development over the century followed a pattern of growth and improvement through the 1850's, when population decline, commercial stagnation and agricultural retrenchment, if not actual depression, slowly set in. The contours of Boxford's population change appear in Table 2. The total of 852 inhabitants in 1800 grew to 1034 in 1855, then fell to 868 by 1865 and 704 by 1900. One cause of this

TABLE 1

Foreign Born Population of Boxford, 1855-1905

	Percent of Foreign Born Population			Percent of Total Population
	British America	Northern and Western Europe	All Other	All Foreign Born
1855	6.52	84.78	8.69	4.45
1865	12.90	83.87	3.22	3.57
1875	42.31	57.69	0	6.24
1885	44.05	52.38	3.57	10.00
1895	42.50	43.75	13.75	11.00
1905	52.31	43.08	4.61	9.77

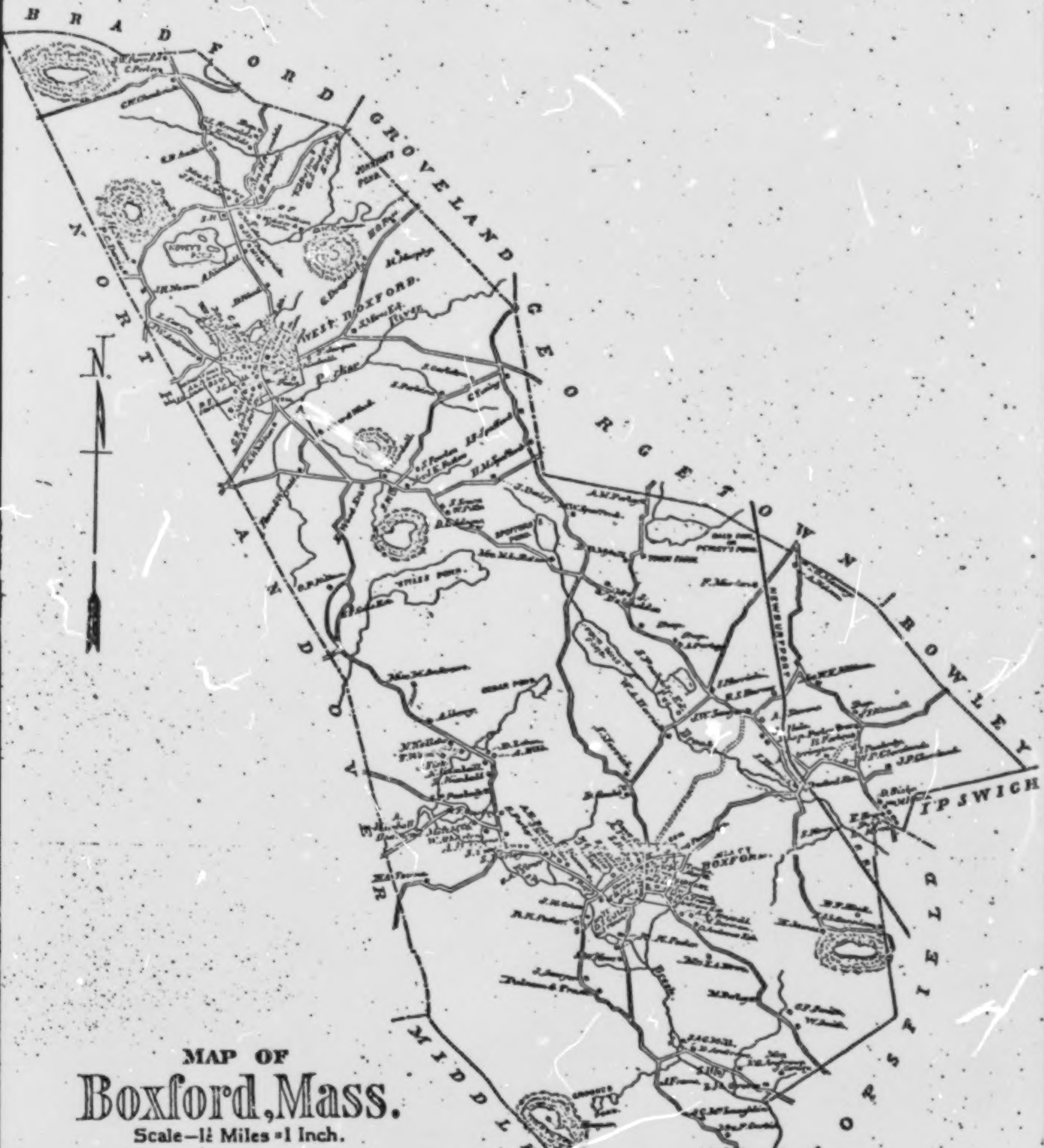
Source: Foley, "A Study of the Economic History of Three Marginal Farm Towns in Massachusetts."
Massachusetts State Census

TABLE 2

Population of Boxford, 1765-1905

	Number of People	Change Between Census Periods	% Change, 1765 = 100
1765	851		100.00
1790	925	+6.92	108.69
1800	852	-8.57	100.11
1810	880	+3.18	103.41
1820	906	+2.87	106.46
1830	935	+2.25	109.87
1840	942	+ .74	110.69
1850	982	+4.07	115.39
1855	1,034	+5.02	121.50
1860	1,020	-1.37	119.86
1865	868	-17.51	101.99
1870	847	-2.48	99.53
1875	834	-1.59	98.00
1880	824	-1.21	96.83
1885	840	+1.90	98.70
1890	864	+2.54	101.53
1895	727	-1.55	85.43
1900	704	-3.27	82.73
1905	665	-5.86	78.14

Source: Foley, "A Study of the Economic History of Three Marginal Farm Towns in Massachusetts."
Massachusetts State Census

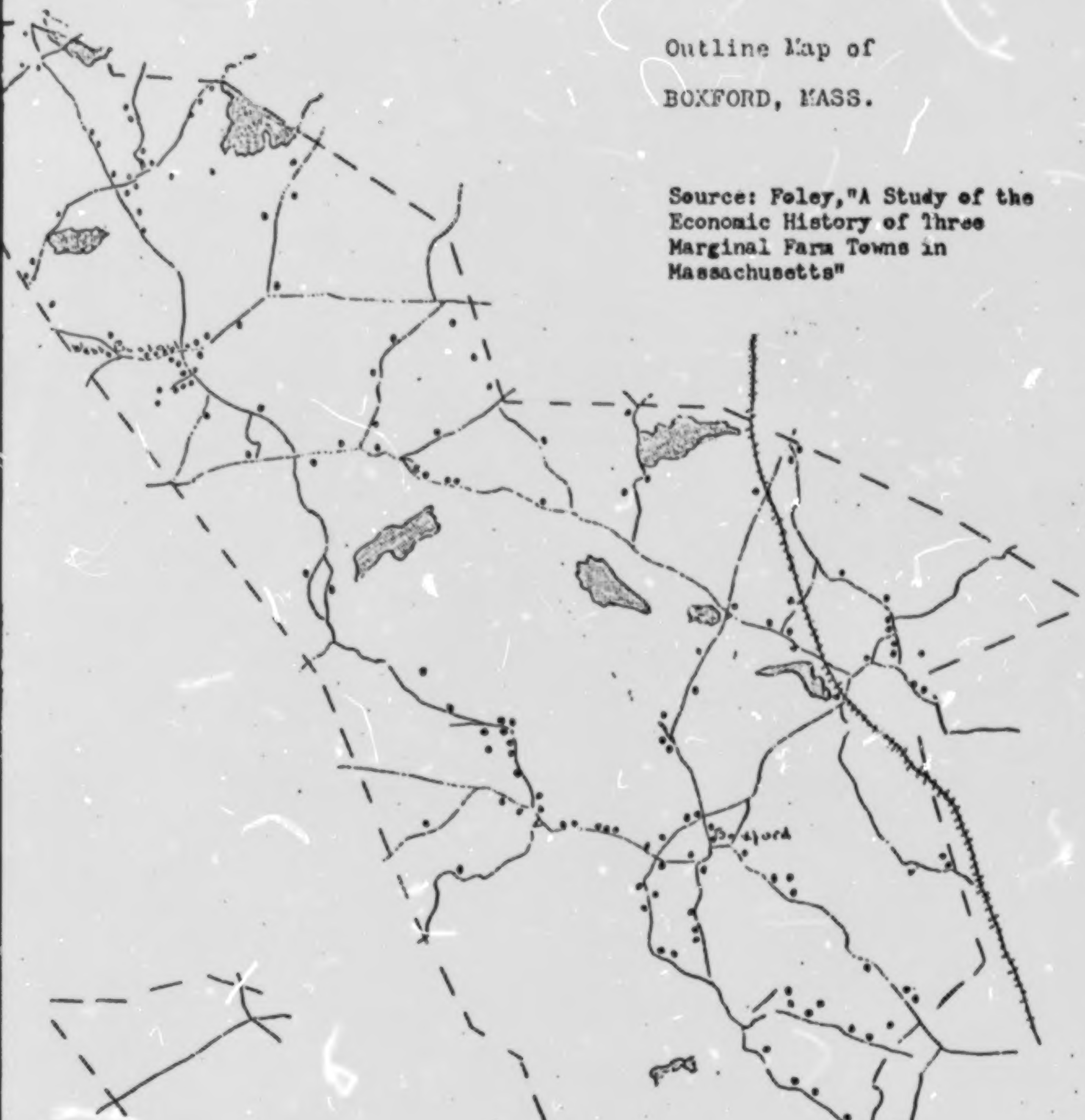

BRADFORD
GROVELAND
GEORGETOWN
ROWLEY
IPSWICH
TOPSFIELD
MIDDLETON
NORTH ANDOVER
WEST BOXFORD
BOXFORD
N

MAP OF

Boxford, Mass.

Scale—1½ Miles = 1 Inch.

ce: G.H.Walker and Co., Atlas of Essex County
(Boston,1884)



Outline Map of

BOXFORD, MASS.

Source: Foley, "A Study of the Economic History of Three Marginal Farm Towns in Massachusetts"

LOCATION OF HOUSES, BOXFORD, 1875.

decline was a drop in family size from an average of 4.85 persons in 1855 to 3.91 persons in 1895. Another was outmigration, toward the industrial centers on one hand and the wilds of Wisconsin and Oregon on the other.[3] The years of Boxford's population growth coincided with the development of small-scale manufacturing, originally domestic crafts, later the factory system. Through the 1830's, Boxford had a thriving shoe industry carried on by farmer-artisans in backyard shoe shops, where they used hand tools to do cutting, pegging and stitching for Haverhill and Lynn manufacturers who provided raw materials and wages. Such rainy-day and wintertime labor produced $52,975 worth of shoes in Boxford in 1837, for instance.[4] About six small shoe factories had been erected by 1850. However, one after another of these failed during the Civil War and its aftermath; Boxford was not destined to become another Lynn. The small town's only textile mill employed about fifteen men and women for the production of cotton yarn, wicking and batting for a time in the 1830's. Other manufacturing made use of Boxford's abundant timber; the cotton mill had been a factory for wood bowls and trays before 1830, and in 1867 it was converted into a sawmill and factory for the manufacture of sticks for the Diamond Match Company. This plant, too, had closed down by 1885, though the sawmill survived to meet local needs. Lumbering itself boomed between 1855 and 1875, providing in 1865, 625,000 board feet of white pine and oak for Essex shipbuilders, the match factory and local carpenters and wagonmakers.[5] Boxford wood also made fine fuel until coal furnaces became common; according to one Boxfordian in 1896, "coal killed this place," aided by the gradual depletion of the oak stands. The development and decline of these industries are reflected in the tax valuation of the town, which grew from $387,304 in 1845 to $631,940 in 1865, then fell to $569,722 in 1880.[6]

Population growth and decline were closely tied not only to manufacturing but to agriculture, which also experienced a minor boom in mid-century, levelling off after the Civil War. With the introduction of clover, crop rotation and manuring before 1830, productivity increased; the war brought a sudden demand for wool. When the war ended, the wool market collapsed just at a time when competition from western farms was putting additional strains on lands already experiencing soil depletion. Nevertheless, not until the last five years of the century did Boxford's total acreage of cultivated land drop, and new markets opened with the coming in 1852 of the Newburyport-Danvers railroad, joined to the Boston and Maine line seven years later. Between 1865 and 1885, milk production in gallons rose from 10,689 to 153,517 and the value of eggs sold tripled, partially compensating for declines in other commodities, especially livestock. Because Boxford's farms were diversified and self-sufficient, they remained economically stable rather than declining sharply before the twentieth century. They could provide an adequate living for those content with moderate prosperity, but they provided little of the opportunity for financial advancement that would attract immigrants.[7]

Boxford's agricultural economy and its isolated geographical situation contributed to its citizens' localistic, even parochial outlook, an outlook which shaped the development of schooling. Within the town's boundaries, self-sufficiency and the difficulty of travel between distant farms presented obstacles to social intercourse. Except for church, farm families came to the town centers only for the relatively infrequent purposes of town meetings, paying taxes, and laying in supplies, and Boxford's two-parish layout further splintered the scattered population. Boxford's isolation from other towns was as great as its lack of internal cohesion, as testified an 1846 geography text attributing Boxford's small size to her "retiring situation" and inaccessibility.[8] To some extent, the completion of the railroad closed the gap between the town and the outside world, as it pumped new blood into the economy and made more frequent travel to cosmopolitan centers possible. Missing both town centers by over a mile, however, the railroad ensured that Boxford would never take a place among the state's thriving commercial or industrial towns. Indeed, the railroad made travel away from Boxford easier while it smothered the economic development which could have attracted travellers toward it. Furthermore, by favoring neither town center, the railroad encouraged Boxfordians to continue to define themselves as east- or west-siders, thereby contributing to their insulation.[9]

Thus by the last quarter of the century, the central facts of life in Boxford had become economic stagnation and cultural isolation. Whether these were advantages or disadvantages was a matter of debate among Boxfordians. Some defended their town as the best possible place to produce "corn, apples and domestic virtues."[10] A visiting minister praised the town which "by its seclusion from many temptations, its rural scenery and its industrious habits, is peculiarly fitted for the formation of useful character."[11] Others, like the town clerk in 1893, bemoaned Boxford's lack of progress. "We are constantly reminded (of decline) by the deserted farms and gaping cellars that greet our eyes as we traverse the paths, lanes and byways of our town, . . . What can be done to dispel from the minds of the rising generation the thought that nothing can be accomplished in Boxford. What can be done to stop the flight of our young people who at the age of 21 years or even before seize the valise and flee to some distant city or town to seek a fortune?"[12] Whether boon or evil, Boxford's isolation from the social changes taking place in Massachusetts' industrial centers shaped the growth of her educational institutions.

In the eighteenth century, despite Massachusetts' early laws mandating primary schools in every town, Boxford's public school system had been slow to develop. The General Court issued a warning to the recalcitrant village in 1701, since it had yet to hire any schoolmaster at that time, sixteen years after incorporation. For many years Boxford had a moving school--one which met for only a few weeks at a time in one neighborhood before shifting to another--and in 1738, the first school was erected. Since a 1789 Massachusetts statute required towns to establish districts and build schoolhouses, Boxford appropriated money to each of six districts, yet even this edict had limited effect. Either the districts procrastinated in building their schoolhouses, or they neglected the task altogether. By 1799 five of the districts had erected houses, but District 3 found it necessary as late as 1831 to obtain a legal opinion as to whether they could at least take advantage of the town's appropriation of 30 pounds for each district's construction project. Meanwhile, a school committee of between three and five men was appointed beginning in 1795. The committee's tasks were to hire teachers, divide the money for summer and winter, or "woman's and man's" schools, to obtain fuel, to inspect classes each term, and to report to the annual town meeting. Operating on a budget of $400 to $500 approved routinely along with highway repair funding and a rule requiring the restraint of hogs, the school committee supervised the schools until 1827, when the district system first made inroads into the committee's central authority. That year the town took advantage of a new Massachusetts law to vote the appointment of a "prudential committee" of one in each district to hire the teachers. Gradually over the next decade the districts increased their power. By 1839 they were choosing their own prudential committees, dividing their appropriation for a woman's and a man's school, and considering in annual district meetings the problems of schoolhouse maintenance. Thus as Boxford grew and prospered, her common school system evolved, increasingly dependent on very local support and interest.[13]

At the same time that public common schooling was expanding in Boxford, a variety of other institutions offered children educational opportunities. Next to the family, the church probably influenced the socialization of Boxford's youth most. There were two Congregational parishes in the town, one in the east and one in the west; both churches had well-established Sabbath school programs. A parish of liberal dissenters which grew out of a split in the first church, partly over doctrine and partly over personal quarrels, may also have had classes in the 1820's. Another popular source of learning in Boxford were the long-running singing schools, which aroused as much excitement for their social as for their educational functions.[14]

Private schools offered more direct competition for the public schools. At least three were conducted during the 1830's, one a primary class held by an unmarried woman in her brother's home, another taught briefly by one Eveline Reynolds for about 25 young women "to fit them for teaching." From about 1865 to 1881, Reverend Calvin E. Park of West Boxford held a private school for young men, apparently hoping to prepare them for entrance into Andover's Philips Academy. Boxford itself had two fairly long-lived academies. Established about 1818 and incorporated in 1828 under the direction of Major Jacob Peabody, a Boston merchant and Boxford native, the first academy had about 50 pupils and survived until at least 1829. Students came from Boxford, Boston, Salem and other Massachusetts towns, as well as from New Hampshire and even Argentina, to study under liberal clergymen who also preached to the dissenting parish in the academy building on Sundays. Another academy, the J. Tyler Barker Free School, operated between 1883 and 1919 on a private endowment and under the auspices of the Episcopal church. While the Barker school, like all the other nonpublic educational institutions, caused chagrin among the school committees, who feared that it "created distinctions," catered to the rich, and siphoned off support for the common schools, it thrived because it served a purpose in the community. Boxford still had no high school by the century's end; ambitious students were expected to use the Barker school. Together with the common schools, the Barker school, the private institutions and the Sabbath and singing schools provided Boxford farmers and craftsmen an assortment of often ephemeral means for instructing their children in the rudiments and inculcating moral values.[15]

By the 1830's, in any case, the importance of common schooling, provided for every child at public expense and under local control, was widely accepted in Boxford. The "little red schoolhouse" was now firmly established as a necessary part of community life. What then, was it like to go to one of Boxford's district schools? An examination of the experience of a typical young Boxfordian, whom we shall call Jane, five years old in 1860 but not dissimilar to school children throughout the century, will help illuminate the reality of education in nineteenth century rural Massachusetts.

Between 1860 and 1869, Jane walked about two miles each day to her District 5 school, which was not little and red, but little and a grayish, peeling white. Jane sat on a hard bench with a straight back well carved with childish obscenities. In winter, she sweltered near the wood stove or shivered in the drafty corners, while summer found her eager to escape into the fresh air and sunshine from the dark, airless schoolroom. Noon hours and recess periods gave her a chance to run about the road and in a nearby marshy area with classmates, and to use the malodorous privy.

Jane had about thirty pupils in her classroom; usually three to six of the class were absent. These students ranged in age from four to sixteen and so included a few just beginning to learn the alphabet and others ready for advanced high school level work. Jane's daily routine included oral drill in spelling and reading, lengthy arithmetic problems and multiplication tables repeated aloud, arithmetic, penmanship and grammar exercises written on her slate, and work in texts in geography, history and reading. Since her teacher was occupied much of the time drilling pupils of other ages, Jane often found herself a class of one, responsible for her own progress. In some cases this was necessary anyway because her textbook was the only one of that edition in the classroom, while in other cases the scarcity and diversity of texts among the students compelled her to share her copy with "classes" of two or three classmates. Jane found the memorization of long, unfamiliar spelling words and of seemingly obscure facts about faraway places dry enough that she cared little whether she had the right textbook or not. The whispered, giggly messages from seatmates seemed more inspirational. For part of each day, however, Jane escaped into the cubicle in the back of the schoolhouse, theoretically a supply closet but, in fact, used by older, advanced students for individual aid to the younger pupils. Two or three of these students were themselves engaged in studying algebra, philosophy, and botany, hoping to pass the entrance examination to the high school in Danvers or North Andover.[16]

For the first four years of her schooling, Jane had a female teacher in the summer and a male teacher in the winter. Not until 1864 did a woman teach her school for a full year, and then the procession of single term teachers resumed. For the first few weeks of each term, Jane always repeated a large portion of what she had completed the previous term, partly because she had forgotten much of it over the long vacation, and partly because her teacher had not yet determined just where Jane stood in each of her subjects. Some terms, Jane never did get to know the teacher well, for he or she was skilled at dealing only with either the most advanced or the younger pupils, neglecting the other group. Teachers varied in other ways, too; some were flippant, others dour, and some were much stricter disciplinarians than others. Jane always heard from her teachers how important it was that she sit quietly and study, never squirming, whispering or leaving her seat unnecessarily. Some, however, enforced those edicts with free use of the rod on unruly children, while others maintained order simply by firm words and serene smiles, and with still others in charge, no amount of punishment could keep the classroom from the brink of chaos.

Past this succession of teachers and textbooks, summers and winters in the District 5 school, Jane progressed until she reached age fifteen. That year she and her parents decided she should stay at home rather than join some younger brothers of her friends who were going on to high school, since several needed care and their expenses were putting a strain on the budget. Marriage to a young neighbor followed, and soon her own children went on to attend District 5 schools and to go through an experience very similar to that of their mother.

What did Boxford parents, school committees and teachers hope to accomplish by sending their children through this daily regimen? What philosophy underlay Jane's experience? Parent and teacher ideas are difficult to determine, but the school committees had the opportunity each year to set out in writing what they believed common schooling should do for a child. They described two major purposes. First, schools should teach children basic skills which would make them useful citizens in adulthood.

> We believe that the terms of schooling now enjoyed in each district are of sufficient length to enable scholars to obtain their knowledge of those branches that will be of most practical use to them in after life. Is it, for example, too much to expect with our present advantages of education, that the scholars in town generally should become good readers and spellers, that they attain to a thorough knowledge of mental and written arithmetic, that they be able to speak and write the English language correctly, that they possess themselves with a good general knowledge of geography and history, and that their handwriting be easy, plain and distinct?[17]
>
> It is very important that all should be able to read understandingly, and spell correctly, after leaving school the young must depend mainly upon their own reading, for general information of what is going on around them, and unless they become tolerable readers at school, they rarely if ever acquire a love of reading afterward.[18]

Second, they should discipline children, inculcating a love of order. Boxford schoolmen did not often explicitly describe the relationship between schoolroom order and the kind of orderly society which they found desirable. Their own community was homogeneous enough and sufficiently isolated from disruptions accompanying industrialization that they did not see the schools as protection from prevailing vice and depravity. Rather, they had a simple, straightforward concept of school discipline necessary under the Biblical injunction to "train up a child in the way he should go." The well-disciplined child would become a respectable member of society.

> Order in school is of the first and of the greatest importance. Here are the materials that will soon form an active and influential part of the community. Just as the twig is bent, the tree is inclined. If the members of the schools are well-trained in good order, they will likely to be in after life the promoters, supporters and defenders of good order in the community and in the country, but if pupils in school are not trained to the observance of order there, or elsewhere, they will be likely to become disorderly members of society, and may be found very likely, if they should have the opportunity, working for the overthrow of good order and good government in the land. Train up a child in the way he should go and he will probably pursue that way through life.[19]

The schools could steer the community toward Christian perfection.

> The civilization of the age is owing entirely to the progress of mental and moral culture among the people; and the people is civilized and enlightened, in proportion as they appreciate and improve the advantages they may possess for training both the mental and the moral faculties of their nature. The former surely should not be improved at the expense of the latter. Where the mental nature is developed to excess and at the sacrifice of the moral, we may have an age of reason, but not one of vision.[20]

> Whatever differences of opinion in religious matters may exist in the community, all will concur in this; that children should be taught morality...Moral influence is, or should be, the principal element in the government of a school.[21]

Of course, the immediate and obvious reason for making children behave in the classroom was that disorder prevented students from studying.

> Disorder in a school tends to prevent active and continued effort in study on the part of the pupils ...A pupil who is engaged in school in making a noise, or in disorderly conduct, is not studying. These acts lead others to do the same. This evil

> work goes on through the day...it makes a vast difference in the work of a term. This evil may go so far as to make a school worse than useless.[22]

These aspirations--to create an environment in which students could learn practical skills and learn to behave in a socially acceptable manner--were so simple that they were never seriously questioned. They were so widely embraced that the means for attaining them earned unanimous endorsement among school authorities, who seemed unaware that unbending rules governing personal behavior, combined with a curriculum of rote memorization and routine progress through textbooks, might stifle a child's creativity while leaving him or her ill-prepared for the problems of adult life. Boxford schoolmen were not consciously forcing their children to conform to the norms of the community. They simply never considered how institutions attain a dynamic independent of real goals, how schoolroom discipline could become an end in itself, a force for conservatism rather than growth.

Boxford educators thus aspired to achieve "perfect order" in the classrooms. Children should obey their teacher unhesitatingly.

> See this principle illustrated in military discipline, and especially on board ship. So, in a measure, are children under authority; they are to be trained, disciplined, fitted for citizenship--and this is best accomplished by requiring from them willing submission to rules and to authority... We have read of a sturdy old British captain who knocked a man overboard for disobedience and then roared out, just as his frigate was going to pieces--"Hearken my lads, while a single plank, while even a toothpick from this frigate floats, I command and will be obeyed." "To obey is better than sacrifice"--better than anything else that can be given--and to train children to obey is to give them an education, which will be of permanent advantage to them.[23]

They should sit still in their seats, and, above all, they should be quiet.

> Among the various elements of disorder, we believe there is none more fraught with mischief, more generally prevalent and more difficult to suppress than the practice of whispering. Your committee believe that they have never known a school to make good improvement where this practice was allowed. No scholar can pursue his studies to any advantage, with a continual buzzing in his ears... But the more noise of whispering, bad as it is, is far from being the only evil with which it is attended... Through this practice, every idea, impure thought originating with a single scholar, is easily propagated, till it becomes common throughout the schools.[24]

If possible, Boxford wanted to achieve this "perfect order and stillness" through the moral example of the teacher, rather than through corporal punishment.

> His address and manners should be pleasing, and such as parents would wish to present as models to their children, for so great is the power of imitation, and so early does it develop itself, that the young will insensibly imitate, more or less, those to whom their instruction is committed. Above all, their moral character should be such that their influence shall be always salutory.[25]

> The teacher should be a man of correct moral habits, for if he labors faithfully for the improvement of his pupils...(he can) instill into their minds a sacred regard for truth and uprightness, and a love for whatever is of a virtuous and ennobling character. And on the other hand, to discourage and frown upon idleness, falsehood, and whatever of a vicious, and debasing nature is brought to his notice.[26]

Teachers who relied too much on "moral suasion," however, were reprimanded and encouraged to use the rod more freely. Few schoolmen took seriously the notion that schoolroom order could long be maintained without the use or at least the threat of punishment for misdeeds.

The practical necessity for corporal punishment was only one way in which the high aspiration which schoolmen professed for the district schools were subverted. "Progress" and "good order" remained elusive, for not all Boxfordians shared the school committees' vision of the school as the bulwark of the community. Rather, the moral parents and taxpayers were often in conflict with the schoolmen, supporting the general notion of public education, but preferring that the school take a much less prominent place in the life of each child and of the community.

For one thing, parents and children resisted the educators' efforts to enforce universal enrollment and attendance in the town. Throughout the century, a persistent core of school-age children remained unenrolled. Summer enrollment in the public schools for children ages 4-16 varied between 73.6 per cent and 86.3 per cent between 1839 and 1869; winter enrollments were between 71.4 per cent and 95.9 per cent, averaging 84.1 per cent. Attendance ran up to 17.6 per cent lower than enrollments in winter, when families found travel across snow-covered countryside difficult, and between 14.3 per cent and 23.2 per cent lower in summer, when many parents encouraged pupils to stay home to work on the farm.[27] The school committee found this practice "pernicious".[28] It certainly made it difficult for a pupil to progress through his lessons:

> If scholars are absent from school for two or three days they lose the recitations, and too frequently, the studies which their classes have been over during that time. This is no slight loss, as on their return they may very likely find that some important subject has been passed over during their absence with which they are not familiar, and in consequence are unable to proceed with their classes in what they are now doing.[29]

It also "caused a disturbance in class, perplexing the teacher," and destroying schoolroom order.[30] Moreover, irregular attendance wasted taxpayers' money:

> It appears, then, that only 89 out of 165 scholars make the average daily attendance in all the schools. Each of these 89 costs the town more than $23. But we have provision made for the entire number and could as well receive daily 105 into school. If 4/5 of the children came to school--and why should they not?--the cost of each would then be nearly $16--a liberal appropriation for a town like ours.[31]

As early as 1844, the town meeting directed the school committee to "inquire into and ascertain the cause of the habitual absence of children from school who are of suitable age to attend the same,"[32] but nothing formal was done until 1864, when a Massachusetts law required the election of three truant officers. In Boxford the school committee shared with the parents an unwillingness to take legal action against truancy. One reason for this reluctance was that the juvenile delinquency problem in the isolated, homogenous town was not nearly as threatening to social order as in an industrial town like Lowell or Lawrence. Truants in the farm village seemed more like rambunctious innocents than budding criminals and drunkards. Second, despite the schoolmen's desire to increase the proportion of a child's time spent in school, they agreed with parents that the home, not the school, was still primarily responsible for a child's upbringing. "God places children upon their entrance into life, not in schools, but in families; he has imposed the responsibility in regard to the training they may receive, not upon teachers, but upon parents."[33] Thus while the law provided that truants be prosecuted and placed by the court in foster homes or reformatories, Boxford's truant officers went no further than to call on a truant's parents and extract from them a promise of more diligence. This method became a town bylaw in 1880, and in 1888, the school committee noted that "a town like this can hardly be expected to employ officers to be on the road every day to see that all the children were in school."[34] It was a parent's job to raise a child in proper habits, calculated to guarantee his own successful future and the peace and order of the institutions of which he was a part.

Besides rejecting the schoolmen's view of school attendance, Boxford parents resisted committee attempts to upgrade rundown school buildings and standardize textbooks. The 1843 school committee complained that most districts' buildings were "dark, dirty and inconvenient" with "peeling clapboard" and bad ventilation. Blaming the problem of "noisy, restless children" in part upon the hard, highbacked benches on which they were compelled to sit, the committee pleaded annually that the districts spend the money to repair their buildings and add appropriate furnishings and apparatus, or better yet, build new schoolhouses.[35] Sanitary conditions were equally bad; in 1883, the committee reported that "all outbuildings were found extremely filthy," the source of scarletina and diptheria. In that year all the privies were repaired, and for the first time, limed. For the parents and taxpayers who attended district meetings, expensive facilities simply did not command a high priority. District 7, for instance, spent three meetings in 1843 debating whether or not to add an outhouse, ultimately approving "only such a building as the /committee in charge/ thinks absolutely necessary."[36]

The schoolbooks which pupils used were equally inadequate in the eyes of the school committee. Although the committee suggested in its first report to the town meeting, in 1796, that the town buy schoolbooks for everyone, the community followed the traditional practice of letting parents provide their own schoolbooks.[37] As a result, a multiplicity of texts and editions appeared in each school; additionally, some pupils always lacked any text at all in some subjects. As two or three pupils with the same primer or sharing one speller clustered together, an informal pattern of grading grew up.

As in the case of schoolhouse conditions, the school committee's dire warnings were heeded slowly if at all. The districts had the power to obtain uniform books if they so chose, but they passed the responsibility on to individual parents and teachers. The school committee did make an effort to make textbooks more uniform. In 1838, they compiled a list of approved texts, probably drawn from the State Board of Education's recommendations, from which all texts were to be chosen, whether bought by parents, teachers, or districts. But in 1845 the committee had to plead with the town meeting to make the list mandatory, so weak was the committee's ability to enforce the recommendations, which had been largely ignored. Teachers often had their own textbook preferences, while parents found it convenient and inexpensive to pass textbooks used by older cousins or siblings down to younger children. Gradual improvement was made, but by the century's end, the committee still worried about the variety of texts used.[38]

Another barrier preventing Boxford's schools from achieving their ideals of teaching skills, discipline and morality was the shortage of teachers who met their specifications. It was clear that the success of a one-room school depended on the teacher in charge, so the teacher had to have certain qualities suited to accomplishing the schools' purposes. He should be well-versed in the subject matter which he was to teach, but "to be well acquainted with all the branches taught in our schools does not of itself make a competent teacher." He must be "irreproachable in morals, of a genial disposition," able to demonstrate and teach "modesty, deportment, reverence for all that is good and pure, obedience, morality and propriety." Most important, "the teacher is succeeding or otherwise, the school is a good one or not, according to the discipline maintained." Unfortunately, it was difficult to judge which applicants for a teaching position were "apt as well as qualified," and certainly few enough actually proved blessed with all the desired qualities.[39]

Boxford's school committee fretted about its teaching staff for a number of reasons. First, they mistrusted the informal means by which teachers were hired. Early in the century, the town meeting had delegated to the district prudential committees the responsibility for examining and certifying teachers, but the prudential committees were often ill-educated and, in the town school committee's view, uninformed about the workings of schools. The prudential committees commonly relied on personal acquaintance or the recommendation of respected neighbors; a former teacher would sometimes recommend a roommate or a sibling.

Examinations were cursory and could not, in any case, measure a teacher's ability to govern a large class. Sometimes a teacher was hired entirely by mail, a certificate being promised upon the schoolmaster's arrival in town.[40]

These hiring practices ensured that most teachers were young and inexperienced. Not until 1850 did any teacher stay both summer and winter terms. While some returned consecutive summers or winters, 70 per cent of all teachers hired in Boxford between 1841 and 1865 stayed only one term. The average nineteenth century Boxford female teacher taught 2.64 consecutive terms; for men, the average was only 1.01. The average number of nonconsecutive terms taught was 3.31 for women, 1.33 for men. In 1859, Harriet Pearl and Mary Adams set records by staying to teach four and five consecutive terms respectively. Around 1880, the first career teachers appeared, the most durable staying as long as eight to ten years.[41] Of course, many beginning teachers proved incompetent and unsuited to teaching, and this led to frequent terminations, either at the option of the prudential committee or because the teacher grew frustrated and did not reapply. Others, who were better teachers, chose to move on to larger, better paying schools, especially as Boxford's school age population continued to shrink at the same time that other school systems were expanding. Still other teachers married or went into other occupations.

Two practices discouraging to careerism persisted almost to the century's end. The first was the hiring of male college students for the winter term; theology and law students took advantage of flexible rules at Dartmouth and Harvard granting leaves or even credit for a few weeks' teaching in the country. Boxford's early schools had the benefit of such highly educated teachers as Eugene Clark, founder of Christian Endeavor, future governor Samuel McCall, and Margaret Fuller's father--each for only one term.[42] The second was the employment of women for summer terms only. According to the practice adopted annually in all the districts, one-third (sometimes one-half) of the school fund was appropriated for a summer term of nine to fifteen weeks, for which a woman was hired. The rest of the money went for the winter terms of two to four weeks less, taught by a man.[43]

High teacher turnover, then, was closely related to the districts' desire to save money. No teacher could support a family on the low salaries, at least not at a standard of living equal to that possible with other jobs. Talented, intelligent people were unlikely to choose teaching over more lucrative jobs; there were

> those who...engage in the important office of teacher for no higher motive than to get their dollars a little more easily than they can by manual labor...This heartless teacher quit his school, flushed with feelings of self-congratulation, that he has succeeded in pocketing the hireling's reward.[44]

and "upstarts...who were a disgrace to the teacher's profession, [who] usurped the place of those who were more thoroughly qualified for their business."[45]

The fact that women could be hired much more cheaply than men, however, made the problem seem more complex, at least to the town school committee. Could qualified women not be hired year around, and the money thus saved be used for raising salaries overall? Or were female teachers just another variety of the second-rate teacher who plagued the schools, poorly educated and incapable of governing a boistrous class of thirty or forty?

Boxford's schoolmen were aware of feminization going on in other towns; and, in 1851, they kept a woman on for the winter term for the first time. In 1857 four of the seven districts hired a woman for the winter, although not necessarily the same one who had taught the previous summer. However, by 1860 the practice had once again fallen into disfavor. The school committee and the district meetings, which in some cases had accepted a prudential committee's choice of a female teacher only reluctantly, after having first instructed the prudential committee to hire a man, decided that the money saved by hiring women was not worth the loss in classroom order. As the school committee wrote in 1857,

> Our winter schools have been less prosperous, and why? Whatever may have been our own opinion heretofore with regard to the utility of employing females to teach our winter schools, and of their ability to vie successfully with male teachers, it is our strong conviction that however well the plan may seem to succeed in other towns, for us, it is not practicable ...we do not believe that a body of persons more faithful, and more devoted to duty lives amongst us. But we believe that the amount of labor, both mental and physical, necessarily required to teach and govern our winter schools, unclassed as they are, is greater than is capable of being performed by them, except in very rare instances.[46]

Women seemed to lack the strength to handle the older boys who were at work on the farms in summer, as well as the "understanding of all the detail and minutiae of the first principles, which comprise nearly all that is taught in our schools."[47]

Over the next several years, however, Boxford's school committee and district committees became convinced of the logic in employing women (see Table 3). Increasing numbers of women, some high school or even normal school graduates, proved willing to teach at low salaries. The financial advantage to the districts was clear. In 1845, Boxford paid its female teachers, on the average, 41 per cent of the wage men received; while the town gradually lessened this inequity, it still paid women only 86 per cent of the male wage in 1880.[48] At the same time, Boxford's female teachers proved themselves competent. More and more women were hired, and in 1878, for the first time, all the schools were taught year around by women. The 1875 School Committee pronounced that "The experiment of substituting female teachers in the winter has succeeded beyond our most sanguine expectations."[49] Feminization pleased the school committee, with their concern for pedagogy and progress, while seeming to provide a good supply of the kind of teachers the townspeople liked malleable to their wishes, not over-educated or "high-falutin'," and cheap.

Thus, as Boxford's schoolmen tried to strengthen their school system and attain their lofty pedagogical ideals, they met with a resistance from parents and taxpayers which perpetuated the realities of irregular attendance, minimal physical facilities, and unprofessional teachers. In part, Boxford's marginal economic situation reinforced parental conservatism and exacerbated the school committee's problems, especially late in the century. Even during the prosperous years before the Civil War, money to buy textbooks

TABLE 3

Feminization of Boxford's Public School Teaching Force, 1840-1880

	Total Number of Teachers	Percent Female Teachers	Average Monthly Wages-Male	Average Monthly Wages-Female	Percent Female Salary is of Male
1840	12	58.3	$26.66	$11.00	41.26
1845	14	50.0	24.43	10.00	40.9
1850	14	64.3	29.60	15.25	51.52
1855	15	66.7	32.11	16.67	51.91
1860	14	57.1	32.87	19.16	58.29
1865	14	71.4	38.37	20.30	52.9
1870	13	61.5	50.20	27.00	53.8
1875	9	77.8	52.00	35.00	67.3
1880	9	77.8	36.00	31.00	86.1

Source: Massachusetts State Board of Education
Annual Reports

or to hire better teachers was scarce. Boxford's farmers, barely self-sufficient, had little cash and were unwilling to spend what they had on higher school taxes. The lumber and manufacturing businesses whose higher tax assessments enriched the town in midcentury closed one by one. Meanwhile, decreases in population, especially sharp in the childbearing age groups, caused class sizes to drop rapidly in the last three decades of the century. In 1845 the average class size in each of the seven districts of 29.0 in summer and 32.0 in winter; in 1870 it had dropped to 23.2 and 28.0, although there was one less district by then. In 1879, one school had only ten enrolled scholars.[50] The small school-age population wasted money, as costs for teachers, fuel and repairs remained steady while they served fewer pupils. Classes were so tiny as to render pedagogical planning useless; good teachers, unwilling to take on such a dreary task for so little pay, preferred jobs in larger schools.

Economic decline, however, was not alone responsible for Boxford's contentment with relatively casual school system. In fact, the town's per pupil expenditures continued to rise from 1845 to 1880, even when the property valuation was falling after 1870 (see Table 4). Boxford continued to compare favorably with Essex County towns of similar size, spending somewhat more than the average for these towns even during the years of economic decline. Rather, Boxford's schools remained aloof from the pedagogical advances and institutional development which the followers of Horace Mann advocated, and which larger school systems were adopting, for another reason. The people of Boxford preferred a system which would closely reflect their widely scattered, localized geographical and community organization. Clinging to traditional ways, Boxfordians resisted any innovations which might transfer some of their control over their children's schooling to their neighbors on the other side of town, let alone the State Board of Education.

For nineteenth-century Boxford, geographical isolation was not a figment of nostalgic imagination, but a fact of life. Rarely did a farmer travel to a distant town. The railroad made trade possible, but it alone did not revolutionize traditional patterns of local commerce and agricultural self-sufficiency. Its out-of-the-way route had deprived either town center of the expansion which major railroad stopping points experienced, and a Boxfordian would have little reason to travel from one parish to the other. A woman who had grown up in West Boxford in the 1890's related in 1975 that she had simply never gone to the east parish and thus was no authority on what had happened there.[51]

The effect of this isolation on education may be typified by the problem of schoolhouse location. Small as the school districts were in comparison to other governmental units, whenever a new building was to be built, their inhabitants invariably spent several meetings wrangling over what location would most closely approximate equidistance from each homestead. Frequently, it was this concern with making the school accessible to its constituents which accounted for the unfortunate schoolhouse settings which so distressed the school committee: unsanitary swamps, cornfields and bare crossroads.

TABLE 4

Property Valuation and Per Pupil Expenditures - Boxford and Essex County 1845-1880

	Property Valuation of Boxford	Appropriation Per Pupil			
		All Mass. Towns	All Essex County Towns	All Mass. towns population 0-1000 except Boxford	Boxford
1845	$387,304.00	$ 2.99	$ 2.54	$2.14	$ 2.72
1850	387,304.00	4.52	3.03	2.84	3.53
1855	538,288.67	5.36	4.85	3.35	4.39
1860	538,288.67	6.42	5.81	4.15	3.82
1865	631,942.00	7.37	6.07	4.40	4.86
1870	631,942.00	11.62	9.04	7.39	8.90
1875	619,045.00	15.07	12.33	9.94	10.30
1880	569,722.00	13.56	11.18	7.54	9.69

Source: Massachusetts State Board of Education Annual Reports

This localistic outlook helped accounted for parental reluctance to upgrade their district schools to meet the standards of the school committees. Irregular attendance, for instance, reflected their unwillingness fully to surrender their children to the control of outsiders. They wanted the freedom to send their children to classes as the spirit moved them. Accustomed to having the children around the farm, doing chores or caring for younger siblings when necessary, farm parents felt that sending the youngsters to school might seriously disrupt the routine on the farm, just as the teachers and school committee perceived frequent absence as disruptive of schoolroom order. Hence too the districts' reluctance to lengthen the terms or abandon the traditional summer and winter term schedule, which was widely losing favor in the cities. The short terms which prevailed before 1870 were highly compatible with farm routine; planting and harvesting times were vacation times, freeing children to the supervision of their parents, who needed their labor.

Furthermore, parents wanted final responsibility for disciplining their own children. They firmly resisted attempts by the school committee and the state to professionalize the teachers, for by setting uniform certification standards and making it more difficult to hire and fire a teacher at the district's will, the schoolmen were depriving parents of their traditional primary role in child rearing. Real distrust of the teachers caused parents to complain to the school committee and even to withdraw their child from school when they believed that a teacher had unfairly or too severely punished him or her. For instance, Sarah Gould, teaching for the first time in 1852, encountered "prejudice" from parents who had her called before the school committee. The committee gave her a second chance, but the class had dwindled to only a few pupils by the term's end. In 1864, District 2 accepted the report of its prudential committee only after striking the last clause, in which the committee had described the last woman hired as a "model teacher." The parents also passed this resolution:

> Resolved, that the expulsion of any school-child from schools is unwise and unjust, whenever they can remain with benefit to themselves and without injury to others. Resolved, that we believe the committee and teacher have exercised undue authority in exacting that which is unnecessary and uncalled for, and have thereby shown themselves unfit for the situations they hold.

Some parents even sued schoolmaster Henry Lewis for punishing a pupil too harshly in 1872.[52]

Of course, as the school committee regularly pointed out, parents who relied on their children for information regarding incidents of discipline in the classroom were not hearing both sides of the story. Since parents rarely visited the schools, their only impression of the teacher's abilities derived from tales carried by an outraged, prejudiced pupil. Moreover, the less support parents gave the teacher as he or she tried to discipline the unruly, the more the teacher's ability to govern deteriorated. But nineteenth century Boxfordians, convinced that parents knew best how to raise their children, gave no teacher the benefit of the doubt.

Ill-assorted textbooks, too, resulted largely from the decentralization which the townspeople so valued. Attempts by

Horace Mann and his successors and by the Boxford school committee to approve and standardize all texts failed year after year. Parents wanted immediate control over what subject matter their children were taught, especially since giving Jane or John an older edition obtained from kin or neighbors was a very inexpensive solution. Were the school committee to buy enough up-to-date textbooks for all the pupils, a large capital outlay would be required, and at the same time a considerable chunk of power would be taken away from the parents.

Thus because the one-room schoolhouse, with its irregular attendance patterns, its poorly standardized textbooks, and its unprofessional teachers responsive to parental whims, closely fit their life-style, Boxford farm families resisted educational innovation. The underpinning for the one-room school was, of course, the district system, the structure most closely adapted to a widely scattered, locally oriented population. To state-level reformers and the Boxford schoolmen who read the annual state reports, however, the district system seemed inefficient, pedagogically unsound and generally antiquated. The consolidation of district schools, then, was an issue that provoked continuing tension between progressive schoolmen and a satisfied populace well into the twentieth century, providing a focus for conflicts accompanying social change.

In 1839 the Boxford town meeting had given the districts full power to choose their own prudential committee, to hire a teacher, to divide their appropriation for summer and winter terms, and to maintain the schoolhouse. Just four years later, in 1843, the town school committee first urged consolidation of the districts under town auspices. The town could get more for its money, the committee pointed out, if it hired three teachers with schools of 40 pupils rather than six teachers for schools of twenty. A proposition to establish a "centre" district, to which pupils of all grades would be transported at public expense, was defeated in 1845, and defeated a third time despite a euphemistic rechristening of the "village" district.[53]

In 1864 the school committee bemoaned the citizens' recalcitrance:

> We believe that a defective system exerts an injurious influence on our schools. But so firmly are the larger part of our citizens attached to this system, so fully are they persuaded that centralized power is dangerous--that the town ought not to be entrusted with the entire care of the Schools, (although its officers preside in every other department) that the reserved right of choosing an agent to have the care of the School houses, and to employ the Teachers of the children, is a privilege of vital importance, not lightly to be relinquished - that we do not with much hope look for better things. Yet this has been a costly mistake, which has done more to retard the progress of an enlightened and enlarged system of instruction, than any and all other causes combined.[54]

By reducing the number of schools to two or three, the committee argued, the town could hire better teachers, ending high turnover, as well as more fairly distributing funds which were now shared equally by large and small schools. Moreover, the schools could be graded, and "the teacher could find more time to dwell on the different topics at each recitation." Little chastised, the townspeople proceeded to defeat proposals to abolish the districts in 1866 and in March of 1869. In April of that year, however, threatened with loss of its $75 state fund appropriation under the new law mandating abolition of districts, Boxford voted in town meeting to accept its fate. Once having made the conversion, Boxford stood by its decision, defeating 43 to 63 an 1872 motion that the town take advantage of its newly-legal option of re-establishing districts by a 2/3 vote. They even approved the lengthening of the school year to include three terms, and the consolidation of the tiny third and fourth district schools.[55]

Boxford accepted less gracefully more extensive plans for consolidation. In 1897 and 1898, Districts 1 and 2, and 5 and 6, were consolidated and transportation provided for pupils in the districts inconvenienced. When parents protested that their farms would drop in value unless a school were nearby, and that transporting children so far would cause them moral and physical harm, schools in Districts 5 and 1 were re-opened in 1899. A serious challenge to traditional localism arose in 1901, when Boxford agreed to join Reading, Middleton and Topsfield in a union district under the superintendence of Melville A. Stone of Reading. Stone was sympathetic to the problems of widely scattered farmers; nevertheless he was certain Boxford would accept new ways:

> The old country schools of a generation ago did good work...but many of those who obtained in that way, a good education and have in fair measure kept up to the times, are very well aware that the world moves, that progress is being made, in methods of education as well as in other things and are ready to endorse the modern methods.[56]

Stone opened a central grammar school in the town hall of the east parish, arguing that as soon as possible a new building with a playground should be built to house a primary school as well. At the annual union district meeting of 1903, "much dissatisfaction" arose over Superintendent Stone's progressive ideas. Boxford and Middleton, lobbying for a new superintendent, could not agree with Reading and Topsfield and so withdrew from the union. Boxford closed its grammar school immediately and begun looking for some smaller towns who might be willing to hire a less radical superintendent. In 1905 J. G. Morrell was appointed for the job.[57] Boxford was not rid of the issue of consolidation. In 1906, two of the east parishes three ungraded schools, which by this time had less than 50 pupils altogether, were again joined under one teacher for the lower and one for the upper grades. Merrill, however, was more sympathetic than Stone to the idea of local control:

> I do not wish to complain about the present condition of your school system. If it is satisfactory to the committee and to the citizens and you should wish for no change, I will do the best I can to gratify your desire. But if you are willing to try a change for the purpose of getting something better, you must not complain and criticize until the changes have had time to work out the natural results.[58]

Boxford's locally-oriented farmers took their firmest stance on consolidation and grading of the one-room schools but they also resisted other innovations in the name of local control. The question of establishing a high school was an example. By the 1880's, it had become evident that some pupils were now staying in school long enough to take up studies at a high school level and that Boxford's common school teachers had neither the expertise nor the time to handle these pupils along with a roomful of smaller children. Ambitious older pupils tried doing algebra, bookkeeping, ancient history and Latin on their own, and one dedicated teacher held classes in French outside school hours. Other pupils entered the Barker Free School in West Boxford, which admitted children as young as age 12 and was under sectarian control. A third alternative was to travel to a high school in another town. In 1884 two girls began going to the high school in Putnam, and in 1886 four more left for Newburyport, Georgetown and Danvers. Although an 1891 Massachusetts law required that a town lacking a high school pay tuition for its young people attending high school in another town, Boxford seems not have been doing so by 1896.[59]

Inevitably, a Boxfordian proposed at a town meeting in 1896 that a high school be erected, and geographical tensions were the resolution's downfall. West Boxford was unwilling to vote support for a school which they expected would duplicate the services of the Barker Free School, located in their parish. The school committee also took this point of view, having tried for several years to convince the state that the existence of the Barker School should exempt the town from either maintaining a high school or paying out-of-town tuition. The east parish, insistent that it was too far for its children to travel across town to the Barker school, wanted to build a high school. Although the larger east side could vote the west down, the resolution failed when no location could be decided upon. The only fair setting--exactly two and one-half miles from each town center--was covered with thick pine woods. In the end, it proved less divisive as well as cheaper to pay tuition and even carfare into Danvers and North Andover for all pupils than to build one high school for the whole town.[60] On the high school issue, unlike consolidation, the Boxford school committee generally agreed with the local farmers who resisted the state mandate at least until late in the century. For while the school committeemen were considerably influenced by the state-level reformers, they knew that they understood local needs better than any officeholder in Boston. In their own way, they were almost as parochial in their outlook as the farmers who elected them. Only when an increasing number of young Boxford men and women began moving to the cities to seek work did a high school, with its curriculum geared to preparing students for clerical and teaching jobs, appeal to many of the rural townspeople. When a demand did arise, local prejudices and geographical conflicts spelled the downfall of the high school project.

At the end of the nineteenth century, then, the high school issue represented the dilemma of education in the small, isolated town. On one hand, Boxford's resistance to grading and consolidation, longer terms and improved facilities had earned the rural community a bad reputation with school reformers. On the other hand, Boxford farmers had succeeded in maintaining a system fairly responsive to their needs. For a town little touched by social changes going on in large industrial cities, Boxford's schools had been appropriate. They were congruent with traditionally close-knit kinship and neighborhood ties, and they fit the patterns of agricultural life. Although it is uncertain that Jane's graduation from District Five proved that she had mastered the crude curriculum, she had certainly come to know her teachers and classmates in a more personal way than was possible in the increasingly bureaucratic systems of the cities. She had received individual attention from teachers whose background closely approximated her own. She had shared with older and younger classmates the familiarity of cousins and lifelong neighbors, benefitting from their tutoring and stimulated by the work they were doing in the same classroom.

The one-room schools were not divorced from the larger patterns of Boxford life. Summer and winter terms were scheduled around strawberry picking and sheep shearing; even the sexist practice of hiring women only for summer reflected the reality of farm life, in which the winter months found many more burly, unmanageable boys attending schools for lack of agricultural chores. Short terms and noncompulsory attendance freed students to acquire socialized attitudes from other community institutions. As David Tyack has written,

> Schooling -- which farmers usually associated with book learning -- was only a small, and to many, an incidental part of the total education the community provided. The child acquired his values and skills from his family and from neighbors of all ages and conditions. The major vocational curriculum was work on the farm or the craftsman's shop or the corner store; civic and moral instruction came mostly in church or home or around the village where people met to gossip or talk politics. A child growing up in such a community could see work-family-religion-recreation-school as an organically related system of human relationships.[61]

Sabbath Schools, singing schools, and private academies contributed just as did public schools.

Finally, Boxford's seemingly inefficient district control facilitated social intercourse if not top-quality pedagogy. For farm people largely isolated from major political events, district school meetings were the arena for lively conflicts over tight neighborhood loyalties and parochial issues. Controversies over the location of schoolhouses reflected the neighborhood rivalries inherent in wide geographical dispersion, but their resolution in district and town meetings was useful in maintaining the integrity of the Boxford community. Moreover, the schoolhouse was the scene for all sorts of social life. The teachers presented their pupils in evening programs of declamations, dialogues, and readings in unison, while the public examinations at the end of each term entertained parents and citizens with displays of spelling, reading and oral arithmetic. When the schoolhouse was unoccupied, the districts lent it out for the use of singing schools and debating societies, public lectures and religious meetings, drawing together neighbors who had few enough occasions for fellowship.[62]

Nonetheless, as more young Boxfordians moved out to seek jobs in the city, and as those who stayed to farm were increasingly in touch with the outside world, schools which had served nineteenth-century Boxford well became anachronistic. For many students, community integrity and socialization for a slowpaced rural lifestyle began to lose their relevance. It was left for twentieth-century Boxford to consider how the school system might be used to revive in rising generations a love for the land and to impart the scientific skills needed to make a living from it, or to prepare those who would leave for careers in the urban environment. In 1900, Boxford had yet to face the dilemmas which social changes occurring beyond its borders had presented in the nineteenth century.

FOOTNOTES TO CHAPTER IX

1. George Herbert Palmer, *The Life of Alice Freeman Palmer* (Boston: Houghton Mifflin, 1908), p. 278.

2. Mary J. Foley, A Study of the Economic History of Three Marginal Farm Towns in Massachusetts (Ph. D. dissert., Massachusetts State College, 1933), pp. 6, 37A, 37B, 38, 39, 39B.

3. Foley, pp. 28A, 32.

4. Foley, pp.39, 72-3,76;diary of member of Sawyer family, 1856-60, "Freeman Sawyer" file, Boxford School Committee, *Annual Reports*; Arthur G. Sias, "The Industries of Boxford, and Boxford's Most Unforgettable Characters," address to Reading Antiquarian Society, Reading, Massachusetts, 29 July 1844, p. 7, Boxford Historical Society.

5. Foley, pp. 10-11, 73-8; the Dodges, *Puritan Paths from Naumkeag to Piscataqua* (Newburyport, Massachusetts: Newburyport Press, 1963), p. 32; Sias, pp. 4-12; Sidney Perley, *History of Boxford* (Boxford: by the author, 1880), p. 339.

6. "Boxford Lets Things Burn," Boston *Globe*, 31 January 1896, n. p.; Massachusetts State Board of Education, *Annual Reports*, 1841-80.

7. Foley, pp. 11-12, 45-59; U.S. Department of Commerce, Bureau of the Census, *Statistics of the United States, 6th Census, 1840*, p. 54; Winthrop P. Haynes, "Address Delivered at First Parish Church, Boxford," 2 August 1942, Boxford Historical Society.

8. William B. Fowle and Asa Fitz, *An Elementary Geography for Massachusetts Children* (Boston: Fowle and Capen, 1845), p. 94.

9. "Boxford Lets Things Burn."

10. George Herbert Palmer, "A Non Decadent Country Town," *The Congregationalist*, no date, clipping in "Celebrations" file, Boxford Historical Society.

11. Reverend Page, in "Discourse Delivered at Boxford, Massachusetts, May 10, 1863, by Reverend William S. Coggin, on the 25th Anniversary of His Settlement, Together with the Proceedings and Addresses at a Social Gathering on the Following Day" (August, 1864), p. 50.

12. Town Meetings Minutes, Boxford, Massachusetts, 1893. (Manuscript in Boxford Town Hall.)

13. Town Meeting Minutes, 1791-1839; Minutes of Meetings of Districts 2, 3, and 4, 1798-1839 (Manuscript in Boxford Town Hall) and 7 (Boxford Historical Society); George H. Martin, The Evolution of the Massachusetts Public School System (New York: D. Appleton, 1923), p. 92; Perley, p. 307.

14. Perley, p. 286; Third Congregational Society in Boxford, "Facts and Observations Respecting the Doings of the First Church in Boxford." (Andover, Massachusetts: Flagg and Gould, 1825); Winifred C. Parkhurst, History of the First Congregational Church, Boxford, Massachusetts (Topsfield, Massachusetts: Perkins Press, 1952), p. 53; Boxford School Committee, Annual Reports, 1845, p. 13; diary of Timothy Fuller, excerpted in Publications of Cambridge Historical Society, Volume XI.

15. Massachusetts State Board of Education, Annual Reports, 1837-40; "A History of the Lands in the North Part of Boxford," (Typewritten, Boxford Historical Society), pp. 46-7; Sidney Perley, Dwellings of Boxford (Salem, Massachusetts: Essex Institute, 1893), pp. 105, 257; 1829 catalogue of and typewritten notes on Boxford Academy, Boxford Historical Society; Marcia Brockelman, "State Has Taken Command of Reading and Writin' Many Times in Boxford," Lawrence Eagle-Tribune, 1 August 1970; "Reopening of the Barker Free Academy," Brochure, West Boxford Public Library), 1922; Boxford School Committee, Annual Report, 1845, pp. 17-18; D. Hamilton Hurd, History of Essex County, Ma (Philadelphia: J. W. Lewis and Company, 1888), p. 964.

16. Barbara Perley, taped interview, West Boxford, Public Library, 1975; Boxford School Committee, Annual Reports, 1841, p. 7; 1860-69; 1879, pp. 5-6; 1885, p. 8; 1886, p. 7.

17. Boxford School Committee, Annual Reports, 1854, p. 7.

18. Boxford School Committee, Annual Reports, 1858, pp. 7-8.

19. Boxford School Committee, Annual Reports, 1866, p. 7.

20. Boxford School Committee, Annual Reports, 1861, p. 9.

21. Boxford School Committee, Annual Reports, 1855, pp. 7-8.

22. Boxford School Committee, Annual Reports, 1866, p. 7.

23. Boxford School Committee, Annual Reports, 1873, p. 4.

24. Boxford School Committee, Annual Reports, 1857, p. 9.

25. Boxford School Committee, Annual Reports, 1841, p. 8.

26. Boxford School Committee, Annual Reports, 1852, p. 6. Timothy Fuller's diary suggests that Boxford parents may have had some reason to worry about the moral example to which their children were exposed. Fuller recorded attending frequent parties in surrounding towns. At one lasting until 1:00 a.m., Fuller had a "tolerably high go!", and another kept him out until 4:30 a.m.

27. Massachusetts State Board of Education, Annual Reports, 1837-80.

28. Boxford School Committee, Annual Reports, 1874, p. 8.

29. Boxford School Committee, Annual Reports, 1870, pp. 6-7.

30. Boxford School Committee, Annual Reports, 1852, p. 5.

31. Boxford School Committee, Annual Reports, 1873, p. 8.

32. Town Meeting Minutes, 1864, 1880.

33. Boxford School Committee, Annual Reports, 1857, p. 10.

34. Boxford School Committee, Annual Reports, 1880, p. 4; 1888, p. 4.

35. Boxford School Committee, Annual Reports, 1841, p. 9; 1842, pp. 3-4; 1843, p. 7; Essex County Teachers Association, "Report on Schoolhouses," (Newburyport: Hiram Tozer, 1833).

36. Boxford School Committee, Annual Reports, 1883, pp. 3-5; Minutes of District 7, 1843.

37. Town Meeting Minutes, 7 November 1796.

38. Boxford School Committee, Annual Reports, 1841, p. 3; 1843, p. 6; 1844, pp. 1-2; 1845, pp. 15-16; 1853, p. 10; 1863, p. 10.

39. Boxford School Committee, Annual Reports, 1841, p. 38; 1873, p. 3; 1879, p. 7.

40. Boxford School Committee, Annual Reports, 1841, p. 8; 1851, p. 7; 1869, p. 7, 1878, pp. 4-5; Jacob Batchelder, Jr., to his parents, 25 September 1825, Boxford School Committee, Annual Reports; William Kimball to Caroline A. Stiles, 5 April 1860, Boxford Historical Society; Eugine F. Clark, A Son's Portrait of Dr. Francis E. Clark (Boston: Williston Press, 1930), p. 42.

41. Boxford School Committee, *Annual Report*, 1841-95.

42. Clark, p. 42; Charles Bradley to Frank A. Manny, 23 January 1929, 24 November 1930, Boxford Historical Society; Frank A. Manny, "Findings: Old Boxford in Essex," *North Shore Breeze and Reminder*, 23 May 1930; "Transcendentalists in Boxford," (Typewritten), Boxford Historical Society.

43. Minutes of Districts 2, 4 and 7, 1798-1869; Boxford School Committee, Annual Reports, 1841-81. Note that although low wages for female teachers accounted in part for the disproportionately small summer appropriations, a more important factor was the need to buy fuel in winter.

44. Boxford School Committee, *Annual Reports*, 1847, p. 5.

45. Boxford School Committee, *Annual Reports*, 1851, p. 7.

46. Boxford School Committee, *Annual Reports*, 1851, pp. 1-4; 1854, pp. 1-3; 1857, p. 7; 1859, pp. 4-5; Minutes of District 2.

47. Boxford School Committee, *Annual Reports*, 1870, p. 4.

48. Massachusetts State Board of Education, *Annual Reports*, 1840-80.

49. Boxford School Committee, *Annual Reports*, 1872, p. 7; 1875, p. 5; 1878, pp. 8-9.

50. Boxford School Committee, *Annual Reports*, 1840-80.

51. Foley, p. 35E; "Boxford Lets Things Burn," Elizabeth Pearl, taped interview, West Boxford Public Library, 1975.

52. Boxford School Committee, *Annual Reports*, 1844, pp. 4-7; 1845, p. 18; 1852, p. 2; 1856, pp. 7-8; 1872, p. 5; 1905, p. 45; Minutes of District 2, 1864; Charles Bradley to Frank A. Manny, 24 November 1930, Boxford Historical Society.

53. Boxford School Committee, *Annual Reports*, 1843, p. 5; 1870, pp. 6-9; 1868, p. 11; 1870, pp 1-3; 1871, p. 4; Town Meeting Minutes, 1866-72.

54. Boxford School Committee, *Annual Reports*, 1864, p. 6.

55. Boxford School Committee, *Annual Reports*, 1843, p. 5; 1870, pp. 6-9; 1868, p. 11; 1870, pp. 1-3; 1871, p. 4; Town Meeting Minutes, 1866-72.

56. Boxford School Committee, *Annual Reports*, 1897, p. 10; 1898, pp. 9-10; 1899, p. 9; 1901, pp. 6, 9-11.

57. Boxford School Committee, Annual Reports, 1901, pp. 9-10; 1903, pp. 50-51; 1905, p. 45.

58. Boxford School Committee, Annual Reports, 1905, p. 46; 1906, p. 44.

59. Boxford School Committee, Annual Reports, 1879, pp. 5-6; 1884, pp. 9-11; 1885, p. 8; 1886, p. 7; 1888, p. 4; 1889, p. 5; 1901, p. 12; "Boxford Lets Things Burn," Martin, p. 199.

60. "Boxford Lets Things Burn," Boxford School Committee, Annual Reports, 1900, pp. 4-5; 1901, pp. 11-12.

61. David B. Tyack, "The Tribe and the Common School: Community Control in Rural Education," American Quarterly 24, 1 (March, 1972): 4.

62. Boxford School Committee, Annual Reports, 1841, p. 10; 1855, p. 6; Timothy Fuller diary; Essex County Teachers Association, "Report on Schoolhouses," p. 22; Minutes of District 7, 1839, 1843.

CHAPTER IX

SCHOOL AND SOCIETY IN A NINETEENTH-CENTURY INDUSTRIAL CITY: A CASE STUDY OF LYNN, MASSACHUSETTS

by John W. Jenkins

This chapter is a brief history of the public school system of Lynn, Massachusetts. The central problem is to determine what factors led to its growth and to the particular form it had taken by the end of the nineteenth century. Why did the school system develop as it did? Why, in fact, did it develop at all? Was it imposed by an upper class upon a reluctant, perhaps even resistant, working class? What part did ideology play in shaping the system? And finally, did it achieve the ends intended for it?

To answer these questions, the chapter is divided into three parts. The first describes the social, economic, and ideological elements that, taken together, shaped the lives and thought of Lynn's inhabitants in the nineteenth century. Of greatest significance is the fact that Lynn grew from a small rural town into a modern urban city, with the shoe industry serving as its economic base. This chapter sketches the growing complexity of life and the emergence of a modern urban ideology. It appears that this ideology emerged as a general condition of modern urban life; therefore, attributing it specifically to the capitalist economic base is not adequate. In other words, urban ideology in Lynn was supportive of, but not derived from, the shoe industry. It is argued further that because this ideology promised security and stability to the well off, on the one hand, and opportunity to the rest, on the other, it constituted a world view and ground for social policy determination accepted by all articulate segments of the adult population--owner and worker alike. It was in terms of this ideology that citizens of Lynn interpreted the incredible growth of their city, as well as the implications that growth seemed to carry for the continued stability of the accepted order. And further, it was in terms of these perceptions that a consensus among all segments of the adult population existed, about what was to be expected from the public schools.

The second part of this chapter describes the evolution of the school system from a set of relatively autonomous district schools to a professionally administered modern corporate institution. Here it is argued that the large and consistent increase of population, along with an ideology that placed great stress on formally schooled citizenry, combined to make the growth of the school system inevitable. This is not to say, however, that those in charge of the schools knew in advance the specific form the system would finally take. On the contrary, although the ideology remained constant, school committee policies constantly changed because as the institution grew, different problems came to light requiring different solutions.

Finally, there is a conclusion. Its purpose is to speculate about the broader meaning of the history, not to summarize it. More about that will be said after the story has been told.

I. Life and Mind in Nineteenth-Century Lynn

Lynn's shoe industry provided the material means that allowed a sleepy, harborless, subsistence farming community to be transformed into a modern urban city. This transformation may be characterized as a growth in diversity, complexity, and perhaps opportunity. The shoe industry determined whether or not Lynn could grow; it did not, however, determine what shape that growth would take. Thus, despite the crucial economic impact of the shoe industry, it was only one element among many that intruded into the lives of individual Lynn residents. As the century progressed, the scale and complexity of social life compounded; individuals increasingly stood in more and more different and varied types of relationships. Thus the consciousness, perceptions, and attitudes of the populace were not determined by any single institution, despite the great impact the shoe industry had on the city's economic development. To understand adequately Lynn's educational history in the nineteenth century, one must recognize that the town grew into a modern city, a city whose economic base happened to be shoe manufacturing.

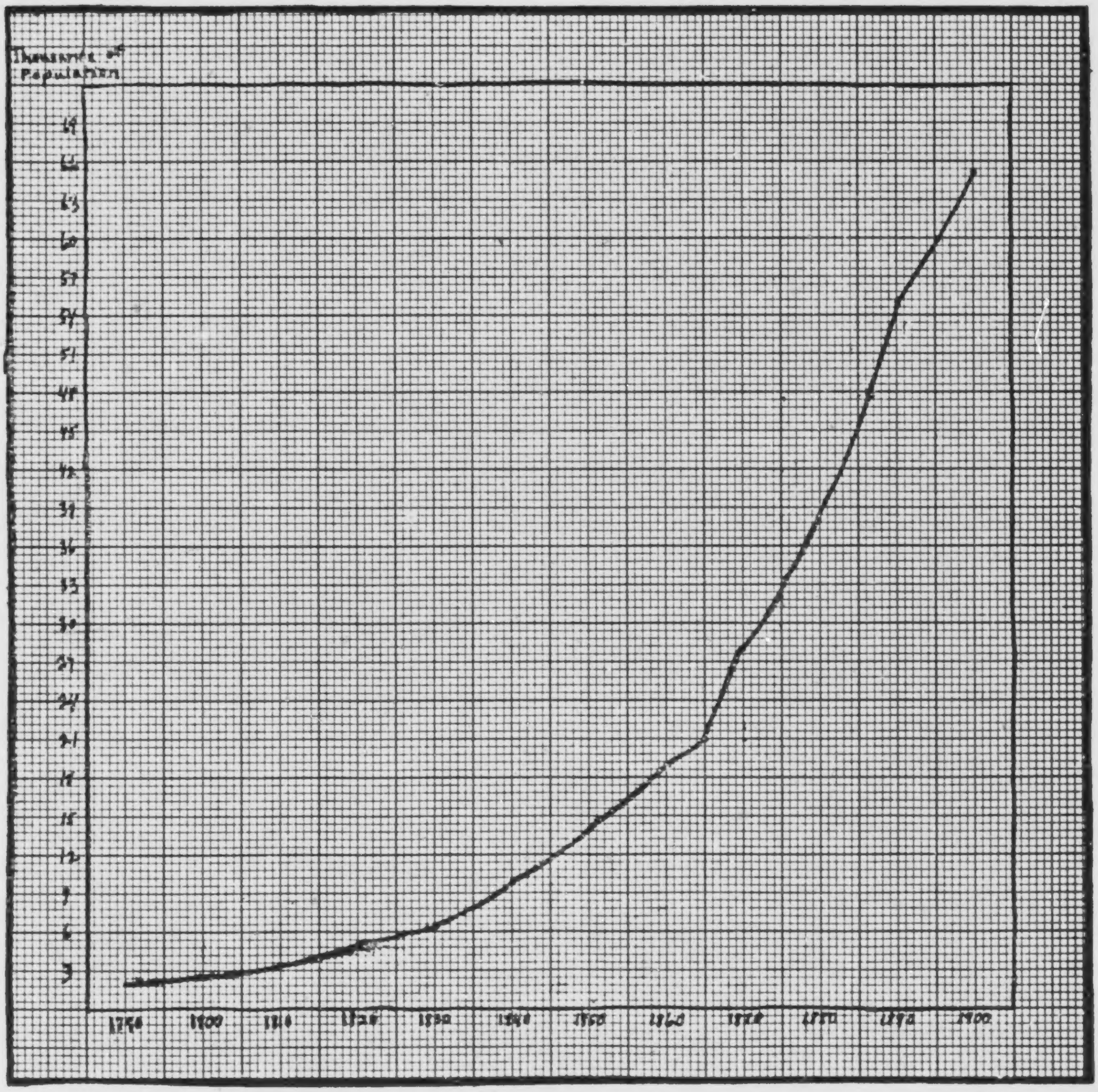
Almost two hundred years passed before Lynn finally achieved such a well-established economic base. Settled in about

1630, Lynn stagnated while neighboring towns with commercial economies, such as Salem and Boston, flourished. Lynn did not have a harbor sufficient to support commerce. Before the War for Independence, people eeked out a living primarily from subsistence farming and ocean food gathering. True, the enterprising tried many alternatives--milling, tanning, silk raising, printing, salt making, even shipping--but conditions were never quite right, and all eventually ended in failure. War, however, brought changed conditions. With imports cut off, a market for shoes opened. From three master cordwainers in 1750, about fifty were at work in 1783. The Southern United States became a demanding market, necessitating a rapidly expanding and differentiating industry. By 1830, in the words of historian Paul Faler, "the contours of the organization in the shoe industry were well defined."[1]

During the first third of the nineteenth century, certain changes indicated that Lynn was entering the evolving network of Massachusetts urban life. The Boston and Salem Turnpike, passing through Lynn, opened in 1803, thus providing a relatively efficient means of transportation and communication. It would serve as the main avenue of travel to Boston until 1838, when the new Eastern Railroad appropriated that function. It was also in 1803 that the Lynn Hotel began providing accommodations for the growing number of travelers. As the years passed, more people visited and found work in Lynn. The population more than doubled between 1800 and 1830 (rising from 2,837 to 6,138). The town's first law office opened in 1808, and the first banker went into business in 1819. Nevertheless, as the

GRAPH 1

POPULATION OF LYNN 1790-1900



Source: Federal Census and Lynn Annual School Reports.

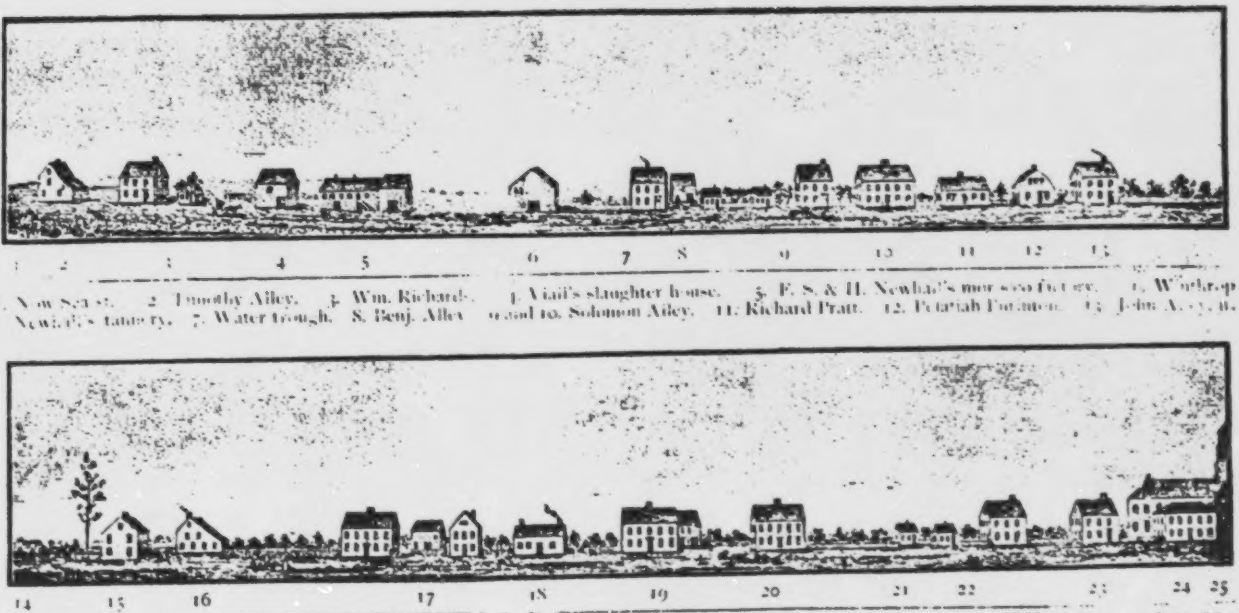
drawing of Market Street indicates (see Figure 1), Lynn still was no metropolis. Growth continued, however, with an almshouse, a second bank, and a newspaper all opening for business before the first Lynn Directory saw print in 1832.[2]

Lynn continued to grow, with the population reaching 14,252 in 1850. In that year the town received a new charter and began operating under the city form of government. Besides the opening of the Eastern Railroad, as already noted, residents built Breed's Pond in 1843, to provide water for an iron works. And finally, in 1849, another clear sign that Lynn had become a part of modern urban life appeared--the first police court went to work. Meanwhile, the shoe industry, riding the fluctuating course of business, continued to expand and to support the growing complexity of life.[3]

During the second half of the century, Lynn took on the typical characteristics of a modern urban community. Real estate and personal valuation in 1850 of just under $5 million increased dramatically (even allowing for inflation) to almost $41 million by 1890; city expenditures rose in the same period from an annual rate of $36,704 to $1,745,229. And during the fifty-year period from 1850 to 1900, the population multiplied by a factor of over 4.8, to reach 68,512. Steadily, also, the technologies and conveniences of modern life became incorporated into the very substance of the city. The first use of illuminating gas began in 1853, with Lynn's gas company manufacturing over three million feet of the material in 1869. Electricity, too, had an early impact, as the telegraph put Lynn instantly in touch with Boston and other cities in 1858. Telephones went into operation in 1879, and the illuminating gas industry began a permanent decline with the introduction of electric lights in 1882. The city's electric works started generating the next year, making possible innumerable conveniences, including an electric street railroad system after 1888. Furthermore, protection against fire finally became practicable by the introduction of an adequate city water system and an electric fire alarm network. Transportation into and out of Lynn got much easier, as the Turnpike became a public highway in 1869; three years later cheap commuter trains began running to Boston. In 1862 the Lynn Public Library opened, and the Lynn Hospital was incorporated in 1881. The number of churches rose from seventeen in 1850 to forty-three in 1901. Finally, as a broader indicator of the increasing diversity and complexity of life in Lynn, the 1854 Business Directory listed 117 categories, while in 1901 it boasted 717. During the last half of the nineteenth century, there was much to do and many things to think about in Lynn.[4]

Throughout the second half of the nineteenth century, the shoe industry continued to serve as the growing city's economic base. It brought in large sums of money from shoe sales and portioned them out (part of them, anyhow) to the community through ancillary industries, taxes, and wages. Furthermore, it provided enough jobs to attract workers from elsewhere, thus supporting a sustained growth in population throughout the century. The value of boots and shoes manufactured, a decent indicator of the industry's income, steadily increased throughout the period: in 1855, boot and shoe manufacturers produced over $4 million worth of goods, with the figure

FIGURE 1

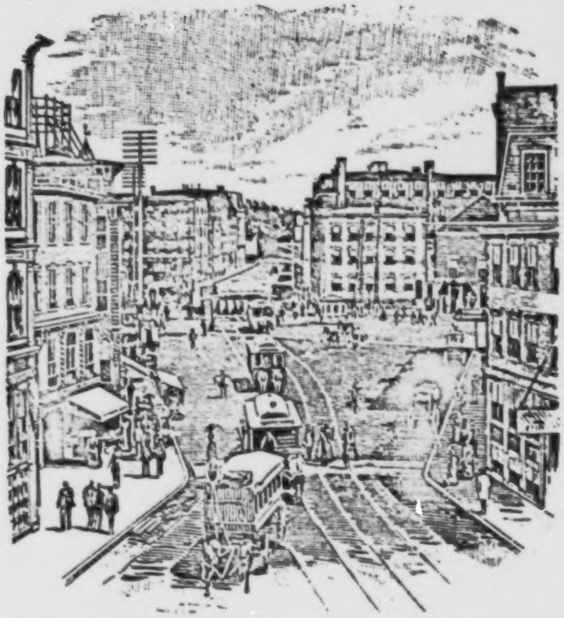


1. Now Sea st. 2. Timothy Alley. 3. Wm. Richards. 4. Viall's slaughter house. 5. E. S. & H. Newhall's morocco factory. 6. Winthrop Newhall's tannery. 7. Water trough. 8. Benj. Alley. 9 and 10. Solomon Alley. 11. Richard Pratt. 12. Pelatiah [illegible]. 13. John Alley, jr.

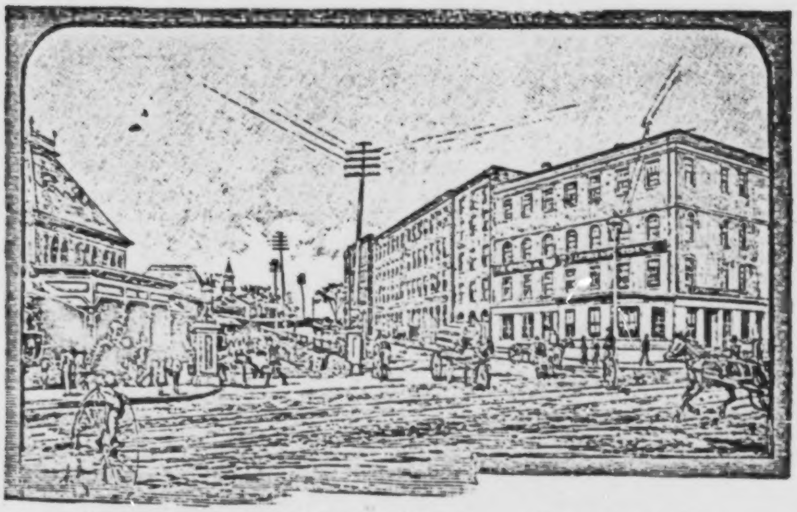
14. Now Summer st. 15. James Alley. 16. Simeon Breed. 17. Dr. Lummus. 18. Capt. Jos. Mudge. 19. Jerusha Williams. 20 and 21. Stephen Smith. 22. Gamaliel W. Oliver. 23. J. B. Ingalls. 24. Rev. Enoch Mudge. 25. Methodist meeting-house. [illegible]

MARKET STREET, LYNN, IN 1820. (South-west Side.)

Source: James Newhall, History of Lynn (Boston:Nichols Press,1897)



Central Square, Lynn — *Before the great Fire of Nov. 26, 1889.*
[Every building represented in the cut was destroyed.]



Mount Vernon Street, Lynn — *Before the great Fire of Nov. 26, 1889.*
[The entire length of this fine street was burned.]

FIGURE 2

Source: James Newhall, History of Lynn (Boston: Nichols Press, 1897) surpassing $22.5 million in 1895. It is possible to develop an idea of the great economic impact of such production upon Lynn by comparing it to the total value of production in the city for all industries. In 1865 the manufacture of boots and shoes equalled 83.64% of all goods produced. The 1880 figure was almost the same at 83.07%, although it dropped significantly to 65.90% in 1895, reflecting the diversification of industry then under way. The percentages are almost the same, too, when total town wages and wages for boot and shoe makers are compared. The shoe market determined to a great degree the amount of money circulating in town at any given time. Clearly, boot and shoe manufacturing provided Lynn its entree into the emerging industrial order and provided its stores of machine-made wealth; and clearly, too, it provided the means whereby the internal dynamics of the city evolved into what has been described in preceeding paragraphs as modern urban life.[5]

To understand the dynamics of the public school system in nineteenth-century Lynn, it is necessary to ask what people thought the system could and should do, and why. To anticipate the argument to follow, the answer is that the public in general consistently supported the growth of the system, and expected it to train up literate and virtuous citizens who would be integrated into the work and social life of the city and nation. From all that could be learned, both the mst complacent and the most disenchanted elements of the adult population agreed as to the ends and means of the schools; we have found no evidence to indicate that any group, at any time during the century, actively resisted either the aims or the organizational arrangements of the public school system, except some Roman Catholics, who objected on religious grounds. For Lynn's adult citizens, public schooling was almost a slogan to which everyone gave their allegiance.

Support for schools derived from a broad ideological consensus. A modern urban ideology defined for Lynn's citizens the nature of the relationship between the individual and his society, and the means by which that society might be preserved and extended. This ideology functioned as a dogma, channeling potentially dangerous dissatisfaction into harmless streams. Basic assumptions about property, production, and human relations had attained the status of self-evident truths and served as the conceptual basis for analysis of public policy and social relations. Reform in Lynn was thus always of the conservative, tinkering variety--the structure of property and class relations remained unanalyzed and unchallenged. The history of the labor movement in Lynn illustrates this point well.

The shoe industry in Lynn emerged under business dominance and within a context of commercial capitalism. As is typical of this type of situation, shoe workers labored under unsatisfactory working conditions and for inadequate wages. Because commerce and industry were oriented toward the dual ends of profit and power for the owners, as opposed either to the production of technically and aesthetically good shoes or toward organization in terms of the needs and interests of the workers, times of economic trouble affected the workers directly, severely, and disproportionately. They, not the owners, paid the price of depressed prices and the rest. As might be expected, labor association and eventually union agitation began in Lynn in the 1840s and continued intermittently throughout the remainder of the century. The three most severe periods of industrial strain are instructive to consider here, because by studying how the workers sought to redress their grievances, we may infer the operative notions of property, power, and justice held by what must be considered the largest, the most exploited and, potentially, the most disenchanted segment of Lynn's population.

Labor association in the 'forties resulted from a growing estrangement between the owners and journeyman shoemakers. According to Paul Faler, the two had previously worked side by side, embodying at least for a time, the ideal of a full and satisfactory craft life. The exigencies of business were not to be avoided, however, and increasingly the owners withdrew from the productive process and became managers.[6] Meanwhile, work life became perverted as standards of quality gave way to pressures for increased and cheaper production. This occurred gradually, leaving the journeyman shoemaker in an untenable position. The institutional base that had provided him "needed time for recreation and pleasure, for reading and contemplation, and for the free expression of his needs outside and apart from work," was vanishing.[7] As owners increasingly hired cheap unskilled laborers, what little control the journeyman had exercised over the quality of workmanship--through the apprenticeship system--also slipped from his hands. The journeyman or artisan class of workers, then, tended to a backward-looking, individualistic labor theory of value, and they were the first to articulate dissatisfaction with the evolving structure of business-dominated industry.[8] This dissatisfaction, however, because it looked backward to a set of conditions irrevocably gone instead of forward to new and appropriate productive arrangements, could not and did not produce fundamental criticism. Instead, in the 1840s, the artisans formed a journeymen's association and published, in historian Charles Dawley's words, the "spirited artisan newspaper," the Awl. It attacked "harsh bosses" and "poor quality workmen."[9] Neither of these challenged property and power interests, however, because, the emphasis was to recapture the past. Business-industrial development kept on its course.

Working conditions worsened. By the late 1850s, the artisans were ready to act more forcefully. They went out on strike in 1860, hoping to convince the owners of the error of their ways so that they would change their management policies to bring quality workmanship and fair wages back into shoe manufacturing. Because the journeymen believed the logic of their case would be acknowledged as self-evident if once perceived, "they expected some support from the manufacturers in a mutual effort to raise prices and thus wages," and furthermore "felt their strike represented the best interests of the entire community, manufacturers included."[10] The owners were not persuaded, however, and the strikers were forced to capitulate after holding out for six weeks. Undaunted, they turned to the political system and elected one of their own, Hiram N. Breed, mayor. If justice could not be won one way, it might be won in another.

Technological advance, in the form of the sewing machine, and the Civil War also helped to make the artisan's industrial position more untenable on the one hand and on the other to enhance the appeal of political solutions to the problems of industrial capitalism. With the rapid and widespread introduction of the sewing machine just after the 1860 strike, it became increasingly feasible to employ larger proportions of unskilled laborers who could produce vastly greater quantities of boots and shoes at a much reduced cost. This caused such an erosion of the artisans' institutional base, and such a decline in their relative numbers, that their ideals and interests could no longer dominate the labor movement in Lynn. And then came the War. Diverting attention from capital-labor problems to North-South problems, a "period of silence" ensued that allowed business to achieve almost complete consolidation of control over the shoe industry. "Moreover," states Dawley, "the War experience helped persuade members of the newly emerging working class that the state, even when controlled by the owners, functioned in the interests of the operatives."[11]

The political consensus created by the War lasted until near the end of the 1860s. In 1868, mostly as a means of achieving satisfactory wage agreements, the workers founded the Knights of St. Crispin and thereby "broke the mold of the craft-conscious, skilled brotherhood that is usually seen as the typical nineteenth century trade union."[12] For two years the Crispins were successful in achieving wage agreements to such an extent that most members believed they had reached a respectable level of "equality." After

1870, however, the owners reasserted their power. The union called a strike in 1872, but the bosses broke it easily, returning the workers to a worse position than they had occupied prior to 1870. Defeat was so profound that no union activity at all occurred in the two years following the strike. In 1875 the Knights reconstituted themselves and continued to enroll workers up through the beginning of 1878. Now, however, artisan dominance had ended--"In every measurable category, the Crispins contained a cross-section of the factory work force."[13]

By early 1878, the Crispins again believed they had the power to force fair wage agreements. Unable to negotiate an agreement, they struck early in the year. The manufacturers, no longer constrained by the need for skilled workers, responded by hiring scabs to replace the strikers, and by calling in the police to maintain order. The strike was soon broken, and the Knights of St. Crispin were permanently destroyed. Labor conditions now were worse than ever, and the owners were in full control.[14] Undaunted, however, the workers maintained their optimism and turned again to city politics and elected another labor mayor. This time the man was George P. Sanderson, a 42-year-old artisan and veteran of both the 1860 and 1878 strikes, who had been nominated by very large margins in each ward. Adding to the dramatic impact of the victory, Sanderson beat incumbent mayor Samuel M. Bubier for the office. Bubier, Lynn's largest shoe manufacturer, had fired Sanderson in 1861 for Sanderson's participation in the strike. The workers of Lynn saw Mayor Sanderson as "a living testament to the openness of the political system."[15]

In the years following Sanderson's election, the shoe workers retained their faith in and commitment to the political system, electing, for instance, their men four out of nine times in the 1890s. Thus, throughout the second half of the nineteenth century, shoe workers in Lynn established a tradition of local political victories. Dawley interprets the impact of this tradition as follows: "Given these experiences, workers were prepared to believe what newspapers, businessmen and ministers told them about American politics."[16] As the Lynn Greenback Club--a worker dominated group--argued in 1878, the recent industrial troubles resulted from "evil legislation," which the workers could remedy by "properly exercising the privilege of the franchise and substituting honest and capable men for holding public office." Or, as Dawley puts it, "Assertive support for the system was the first premise of working class political action."[17] The implications of this allegiance, of course, were profound. It meant that, aside from the very few radicals and aliens of little or no influence, the workers' "radicalism remained within the bourgeois frame. . . . Even at the most extreme, their leaders proposed schemes to limit the operation of capitalism, not to replace capitalism with anything else."[18] The property system would not be reconstituted; it would be ameliorated. The political system, then, functioned as a means by which workingmen's bitterness and tendencies to act were "translated" into electing a labor mayor and away from strictly business-industrial issues--"By relieving some pressure, electoral politics contained the remaining explosive energy of the factory workers."[19] More significantly, perhaps, these political successes occupied the minds of the workers to such an extent, as far as can be determined from the publically stated positions of their leaders, that no radical analysis of the business-industrial order surfaced. Workers may or may not have acquiesced in the system, but if they did not, it seems, their resistance remained unarticulated, unfocussed, and ineffectual.

Not only did the most potentially radical segment of Lynn's population acquiesce in the industrial system of power and property, it appears also to have actually shared with the manufacturers and their business associates an ideology that led to a consensus in town regarding the efficacy of municipal policies and institutional ends. From the point of view of the well-off, this ideology defined an ideal of social order and stability by which their interests would be justified and protected: from the point of view of the workers, it defined opportunity and success and the processes by which they could be achieved. It was the ability of this ideology to appeal in these two directions at once that accounts for much of its widespread acceptance. In hindsight it is easier to see that the actual benefits were not equivalent: the propertied benefited as a class, while the workers did so only individually and relatively intermittently. At any rate, as Lynn urbanized in the nineteenth century, certain difficulties became apparent, and certain changes appeared necessary if conditions favorable to stability and opportunity were to be protected and extended.

The thinking that guided responses to the changing conditions was based upon the old and fundamentally Christian notion that society is constituted of separate and distinct individuals, each of whose moral value is determined by the quality of his soul. (Recall the preoccupation of the Calvinists with the questions of predestination and grace.) Furthermore, people believed that the quality of society--its stability, its order, its morality, and so on--was a function of the aggregate value of the souls, now called characters, of those who composed it. Finally, sometime in the seventeenth and eighteenth centuries a dynamic, environmental element was interjected into this thinking. Reflecting such thinking as that found in John Locke's writings, the new interpretation asserted that people are born into this world with the potential for but not the actuality of a good or a bad character. It asserted, furthermore, that it is to the environment, not to indications of God-given grace, that we must turn if we are to understand why someone became virtuous or evil, or to control the subsequent quality of their life. It is this analysis that directed people, increasingly after 1800, to respond to the perceived disorderly effects of the modern urbanization process, first by establishing benevolent and ameliorative societies, and second by founding institutions such as prisons, houses of refuge, asylums, and school systems. Reformers expected these institutions to take selected individuals in hand and reform their characters. Developments in Lynn corresponded closely to this broader process that occurred throughout the western world.[20]

Paul Faler argues convincingly that in Lynn, "there was a general tightening up of the moral code and a growing emphasis on self-discipline, industry, sobriety, self-denial and respect for authority. There was an equally strong condemnation of idleness and leisure, lewd and lascivious behavior, self-indulgence and prolonged celebration."[21] This, he argues, occurred as a direct response to the growth of capitalist-dominated manufacturing in the city. Certainly the two were compatible, but the causal relation seems impossible to maintain, if only because other cities with different types of economic bases developed similar ideologies. One case is New York, for instance, which was primarily a commercial city at the time this same ideology developed.[22] Thus it seems more accurate to refer to this ideology and its institutional forms as characterizing certain aspects of modern urban (as opposed to narrower manufacturing) life. In any event, the first organized effort "to alter the manners and morals of the community" in Lynn consisted of the manufacturer-dominated Society in Lynn for the Promotion of Industry, Frugality and Temperence, founded in 1826. Motivated by a regard for stability, the society members appealed to the workingman's concern for enhanced opportunity: "Industry, frugality, and temperence," states Faler, "if consciously followed, would necessarily result in savings that would bring a material reward to the practitioner of these habits."[23] But more important were the institutional effects of this moral campaign. Regarding schooling, for instance, a number of essentially autonomous district schools became organized into a school system. In the process the scope of their control over children was greatly enlarged. The earlier schools had had as their basic purposes the imparting of literacy skills and the teaching of good morals and manners, primarily through catechetical instruction in the Bible. In the new public school system, however, the character forming function became more central and was one of the chief purposes of pedagogical innovation.

The commitment to schooling as an effective character-forming tool and as a means to assure opportunity was shared throughout all segments of the city's population. To illustrate this, it is interesting to refer to editorials appearing in the journeymen's newspaper, the Awl, and to the annual mayoral addresses, because here, if anywhere, labor interests would have stated their objections to the school system and the ideology it was expected to embody, suggesting new directions for it. This did not occur, however. Instead, they embraced the modern urban ideology, with its promises of stability and opportunity clearly accepted. In the March 8, 1845 issue of the Awl appeared an editorial advocating the establishment of a public high school in Lynn. It argued the following:

> There is too little attention paid to the subject of EDUCATION by the people of this town. Our schools generally are too crowded, and we fear that there is too little care and good judgment used in seeking instructors, who have charge of the education of our children.
>
> We sincerely hope that our citizens will not be too parsimoneous in this matter; for we believe that there is no money so well spent as that which provides an education for the rising generation. It is to the mechanics of this town to whom we look for encouragement in this point; the rich and influential do not want a school of this kind, they can and will send their children to private schools. So of course they will oppose the measure, unless they have got sufficient philanthropy in their souls to sacrifice a few dollars for the amelioration of the race.[24]

Michael Katz has argued that mid-century public high schools were an imposition by the middle class upon the working class.[25] In Lynn, however, according to the Awl, at least, a public high school would have been an imposition by the workers upon the rich. Seven days earlier, the Awl had carried an article describing the virtues of a proposed cordwainers' library: "It is this that will empty our poor houses of their inmates, and free our jails and prisons of the corrupt and vicious; for there is a close connection between ignorance and vice."[26] The journeymen, then, conceived of good education as having both a powerful moral influence and a literacy imparting function. The workers expected the public school system to embody these two ends, and thus provide the possibility for their children to rise in the world while inculcating values that would lead to respectability and morality.

The tone for the mayoral discussion of the public school system was set early and never changed in the century. In his 1859 address, Mayor Edward S. Davis nicely stated the generally-accepted purpose of the school system. He argued that,

> It is universally acknowledged that sound education of the heart and mind is the only sure basis of character, and is indespensible to usefulness in the world. The importance, therefore, of the public schools, in a community like ours, where they furnish to a large proportion of our youth the only means of acquiring such an education, cannot be over-estimated. What interest in any community can compare with the moral and religious education of the young?[27]

Furthermore, Davis, like other mayors before and after him, expressed pleasure with the work of the School Committee, which was responsible for the actual development and direction of the school system.[28]

The labor mayors accepted the traditional view. Hiram Breed, in his 1861 address, stated, "We have long been accustomed to a high order of schools, that, like many other common blessings, we have almost ceased to appreciate the extraordinary advantage of them. We must sustain them, although much money is needed for that purpose. It is money well spent."[29] These are hardly the remarks of a man who believed that he and his fellow workers were being manipulated by a cabal of self-interested elites. George P. Sanderson, too, in his 1879 and 1880 addresses, expressed general satisfaction with the schools and the School Committee, suggesting only those changes that would make it easier for working class children to benefit from the system. In 1879 he stated,

> The educational interests of our city stand second to none in point of importance. Former City Councils have made liberal appropriations in order to furnish the best accommodations: and to-day Lynn may point with pride to her public schools. . . .
>
> And now we commit this department to the very excellent Board of School Committees, who will have entire charge of it for the year, with entire confidence that whatever is for the interest of education, and consistent with the demands of economy, will receive careful and candid consideration.[30]

And in 1880, noting that most children of the working class must leave the system before the high school years, he advocated "a change in or addition to the grammar school course as will better fit our children for the duties required of them as members of our active business community." He would leave the particulars to the School Committee, because "we have every reason to expect that whatever may promise good results will meet with approval at their hands."[31] The articulate laboring element of the community, then, found little to criticize in the public school system and the ends it was intended to embody.

Care is necessary here because the foregoing analysis should not be construed to mean that conflict over schooling matters was absent from Lynn. On the contrary, some forms of conflict were widespread, but they did not occur at the ideological level. Throughout the nineteenth century, two forms of conflict occurred. The first had to do with the problem of corporal punishment. It is difficult to find reliable information about incidents of this type, but in two cases enough remains regarding parental responses to allow at least a tentative analysis. The first instance concerned grammar master Samuel King, in the 1850s; the second, an unnamed teacher in 1878. In each case, charges and counter charges were made throughout town and in the press, and in King's case the controversy spilled over to include charges alleging other sorts of inappropriate conduct. However, in neither case was the School Committee, the school system, or the modern urban ideology challenged. The controversies centered on the person of the instructor, and satisfaction was to be achieved by replacing him or her. Furthermore, parental opposition to corporal punishment does not indicate an undercurrent of opposition to the school system. This could not be the case, because it was consistently the position of successive school committees that corporal punishment, although occasionally necessary, was generally inadvisable on both disciplinary and educational grounds. The corporal punishment controversies must be understood, then, as parent-teacher conflicts, not as manifestations of resistence to the modern urban ideology or the school system that was intended to embody it.[32]

The second form of controversy centered on the question of school attendance. It found expression in the futile efforts of every single school committee to bring truants to school, and to convince others to attend more regularly. Two general factors may account for these problems. The first, and by far the most damning to the system as an educational institution was that some children either disliked school so much or found other activities so much more attractive that they chose to stay away. The second factor was mostly economic in nature--some children had to be sent to work to bring in needed money. The immediate appeal of weekly wages, in the parents' eyes anyhow, outweighed more distant and vague opportunities for the child in future years. It might be that nonattendance indicates an underlying opposition among parents to the school system and its goals although no direct evidence of parental thoughts on this matter exists. Again, however, nonattendance did nothing to articulate an alternative or a coherent criticism of the school system and its guiding ideology. At best, this form of opposition, if there was such, must be characterized as passive resistence.

To summarize, an ideology supportive of established interests in Lynn developed as the city entered into modern urban life. That ideology promised security to the wealthy and powerful and opportunity to the rest, and therefore achieved almost universal acceptance by the adult population of the city. Because it placed the stress on the moral quality of each individual, benevolent societies and institutions intended to form and reform the characters of people received widespread support. Among the latter was the public school system.

II. The Evolution of a School System

The pressures occasioned by a rapidly expanding population must be emphasized in any explanation of the evolution of Lynn's public school system. The sheer press of numbers meant that facilities would almost always be inadequate. Nine school rooms in the 1824-25 school year might have been enough to serve a relatively small population of 5500, but in 1900, 237 rooms could not truly accommodate the children of 68,513 people then living in the city. School committees throughout the century raised a continuous cry for more and better facilities; they never achieved all that they wanted. Furthermore, the constraints of crowded and worn out buildings conditioned to a great degree their organizational and pedagogical decisions regarding the best ways to educate large numbers of children of widely varying ages and achievement levels. School committees, that is, never had the luxury of making purely educational decisions. To some extent, then, it is fair to say that Lynn's school system came into being as a result of radical changes in demographic conditions. The particular form that system would take, however, would be determined by the interaction between the organizational situation at any given time (for instance, the number and size of available classrooms), the ideologically and pedagogically conditioned plans of school committees, and the sufficiency of resources available to achieve such ends. Before this evolutionary process is analyzed, however, it might be well to describe in outline form the major organizational trends for the century as a whole.

The evolution of Lynn's public school system may be traced from three points of view: style of control, internal structure, and scale or total size. Regarding the first, the trend was toward ever more centralized control: in 1800 the town supported separate district schools under relatively autonomous prudential committees; by 1880, a superintendent of schools and one school committee determined and implemented policies and procedures on a system-wide basis. Differentiation both within and among grades or levels of schools increased and became more sophisticated as the century progressed. In the 1824-25 school year, for instance, each of the town's nine schools accommodated any and all students living within its boundaries; a single pupil often constituted a class. By the late 1890s, however, one English and one classical high school, four grammar, and numerous primary schools, all divided internally into classes, were in operation, as well as a set of evening schools, serving various portions of the adult and near-adult population. Finally, the size of the organization grew with Lynn's population growth. Total annual expenditures (excluding spending for buildings and land, which was controlled by the city council) increased from $2,713.56 in 1824-25 to just over $.25 million in 1899, the largest portion throughout going to pay teachers' salaries. The number of classrooms in operation gives some idea, too, of the growing scale of the enterprise. In the 1851-52 school year, for example, the breakdown of classrooms by grades was as follows: two in the high school, seventeen in the grammars, eight in the intermediates (later to be incorporated into the grammars), and nineteen in the primaries. By 1899, the high schools supported twenty-three classrooms, the grammars had ninety-two, and the primaries had one hundred and twenty-two. Each of these required the services of at least one full-time teacher, usually a woman; and this does not include special teachers and faculty for the night schools. Clearly, by the end of the century, a large and complex school system existed where a handful of separate schools had been before.

Before 1799, publically supported schooling in Lynn reflected the town's small population and rural status, although citizens did try occasionally to achieve more comprehensive and formal control over the educative process. These attempts generally failed, however, because the institutional base was too weak to sustain them. From 1696, when the town first ordered a school to be kept, until about 1794, public education in Lynn consisted primarily of a moving school, which was, in the words of Lynn historian David N. Johnson, "kept at different times, in different parts of town, for the accommodation of the sparsely settled and widely-spread population. . . ."[33] It is true that in the decade of the 1750s town meetings considered establishing a permanent, centrally-located school as well as a committee to regulate all public schooling arrangements, but in each case the decision was in the negative. A town meeting approved similar proposals in 1784, but severely depressed economic conditions following the War for Independence rendered the measures ineffective. Two years later, the town chose another committee to evaluate and possibly change the existing school regulations. Its selection was an indication of a growing willingness among Lynn's citizens to support public schooling more actively. Finally, in March, 1799, the town meeting voted to choose a "superintending committee" to consist of one citizen from each of the town's four wards (later to be elected from the town at large), and to allow, further, each ward to choose a "district committee" of three members each (this committee would later be known as the prudential committee). Each of the latter would be responsible to select, contract, and supervise the district's instructor, as well as to establish regulations for the school. They would also visit their schools monthly, and furnish wood and repair to the schoolhouses. The Superintending Committee, on the other hand, would have as its duties,

> to institute general regulations for all the schools in town; to view, with the district committee and others, each school every quarter of a year, and to make such, and any, observation and inquiries of the instructor and pupils as they shall think best. They shall report to the town at an annual meeting the amount of money expended in each school, for each year. They shall have authority to remove from office any instructor who shall want the necessary qualification.[34]

The Superintending Committee, finally, would settle disputes not resolvable by the district committees. These arrangements constituted the general form which administration and supervision would follow until 1850, when the new city charter reconstituted the School Committee.

During the two decades between 1800 and 1820, the first signs appeared as to how Lynn's citizens, beginning to think in terms of a modern urban ideology, would react to conditions occasioned by population growth. From 1800 to 1810, the population expanded from 2,837 to 4,087 people. Because school wards traditionally supported only one school each, superintending committee members decided to redistrict. Thus the April, 1812 school report states that the Superintending Committee had visited five of the town's six schools, and found them all "in good order."[35] The 1816 report indicates a nascent concern for the stability of social order in the republic. It found expression in the typical form it would take for the remainder of the century: "Your committee recommend to the town to be very liberal in their next school grant, especially as knowledge is the mainspring of all republican government, and ignorance the greatest in despotic states."[36] It is true, however, that this statement might have reflected more the committee's interest in expanding the institution under its charge than a real concern for disorder; but it must be admitted that to make such an appeal assumes at the minimum that the committee members expected to strike a responsive and powerful chord somewhere in the community.

By 1820, organizational problems were becoming evident. In its report to the town for that year, the Superintending Committee described an untenable situation, and suggested, as its remedy the establishment of a year-round grammar school. The report reads in part as follows:

> . . . a great deficiency in books, ink, quills and paper is apparent, and very detrimental to the general progress of the scholars; a great proportion of the children in some of the schools are wholly destitute of books, and those which they have are so various and different the instructors are unable to form them into proper classes. . . . In several of the schools the number of

> children is so great that the instructors have only one minute and a fraction of a minute to devote to each scholar in half a day. To obviate this great hindrance to improvement the committee are decidedly of the opinion that a perpetual grammar school in town is necessary. This, under proper instruction and good regulations, would draw off a number of subjects from each Ward, and relieve them from the great burden.[37]

The proposal failed to receive adequate support, but clearly pressures associated with population growth were beginning to be felt--4,515 people now lived in Lynn.

It was in the decades between 1820 and 1850 that the relatively decentralized structure of public schooling in Lynn took on the main outlines that were to characterize it as a modern school system. It is perhaps no coincidence that within one year, 1850, the high school opened its doors to students, the town received its city charter, and the school committee achieved a new form of organization. These were the same years, too, that the shoe industry became firmly established, thus providing Lynn with the means of access to the ideas and objects of modern urban life. As this occurred, the first great tide of immigration from the hinterlands hit Lynn, raising the population to 14,257 people by the end of the period. Recall, also, it was toward the end of this time that the first stirrings of labor unrest occurred. This was the context within which succeeding school committees did their work.

As can easily be imagined, these widespread and constant social and economic changes seemed to portend, for some, danger to conditions supportive of stability and opportunity. And as we have seen in the discussion of the modern urban ideology, the school system came to be thought of as an important guardian of the received social order. Thus throughout this period school committees variously asserted that the schools, if allowed the means, could strengthen the town's "civil & religious institutions," eliminate ignorance, produce "good will to our Republic," or, in sum, assure the "progressive formation" of "the very character of the city itself . . ."[38] It should not be assumed, however, that school committee members derived their faith in schooling exclusively from their general ideological perspective--specific examples of successful schools were readily at hand. It appears that both infant and sabbath schools operated intermittently in Lynn during the late 1820s and 1830s; at least two committees noted their potential importance as order-preserving institutions. Furthermore, school committees subscribed (in 1826 and 1827) to the Boston-based American Journal of Education, to keep abreast of educational "improvements." This journal, it might be added, was by far the most enthusiastic and widely-read educational periodical prior to the 1860s that reported and supported institutional and pedagogical experiments strictly consistent with and supportive of the modern urban ideology. Proof seemed to abound that schools could and should be responsible for the continued well-being of society. To achieve such an end, however, the system had to be expanded and graded so that an appropriate pedagogy and curriculum could be put into effect.

During the 1820s, a situation developed in the schools, making good education difficult to provide. Each of the town's schools admitted all children between the ages of four and fourteen living within its particular ward boundaries, offering instruction in spelling, reading, writing, grammar, geography, and mathematics. This posed a problem for the teacher--not only was he or she required to hear recitations in these subjects from many individuals and small groups, but the smaller children had to be kept occupied, or at least out of trouble. To make matters worse, "inconsistent attendance" of many pupils further fragmented the school program and tended to make "prompt obedience" difficult to achieve. School committees approached this situation from two directions. First, they exhorted parents to send their children to school every day. Without regular attendance, they realized (and constantly reminded parents), no system of instruction could function smoothly, because the child would not be able to keep up with the work of his or her class.[39] More than exhortation was needed, however, thus the committee, second, made certain structural changes whenever the number of students was sufficient. What they did, essentially, was to distinguish different levels or grades of schools that generally corresponded to the different levels of age and achievement of the children. By 1845, four grades of schools were in operation--mixed (the traditional kind remaining in low population wards), principal (for the older children), intermediate (the next step down), and primary (for the very youngest).

The first primary school seems to have been established sometime in 1827, with the number reaching eighteen by mid-century. Emphasizing character formation and rudimentary literacy skills, the first primary, having registered about one hundred children from four to nine years of age, was "not less novel than successful." Perhaps most significant was the discipline, "remarkable chiefly for its lenity and moderation, yet seeing the most perfect and cheerful obedience; and accompanied with an attachment between teacher and pupils that appears to be affectionate, sincere and mutual."[40] The 1850 school committee maintained this enthusiasm for the primaries, and indicated it in the following words: "Because these primaries are composed of little children, it does not follow that they are of little importance. Here is the beginning, the foundation of the whole system, and special care should be taken to make it perfect in the least parts."[41] Until about the mid-1840s, each ward maintained either a mixed school or a principal school with one or more primaries.

The 1845-46 school report listed twenty-four public schools in Lynn, now including among them two intermediate schools. These operated in the two most populous wards, thus affording them the greatest differentiation of students according to age and level of achievement. Here, again, is another indication of the importance of population density in setting the conditions for and defining the system.

Finally, in late 1849, the outline of the school system was made complete--the public high school had opened its doors to students. The earliest statement by a school committee mentioning this grade of school appeared in the report for 1837-38. It merely referred to the state statute requiring towns the size of Lynn to support a high school, and advocated obedience to that law. Nothing more was done, however, and the next word on the matter was the cordwainers' statement of support (quoted in the preceeding section), which appeared in an 1845 issue of the Awl. The School Committee returned to the issue in its 1847-48 report, with enthusiasm. It seems likely that this new support developed out of a desire to add the final touch to an otherwise complete system of public schooling.

> A suitable gradation of Schools, adapted to the ages and advancement of the children, will greatly facilitate their education. Such an arrangement of the Schools may be carried so far, as to meet the demands of the age. A list of studies may be assigned to each grade, suitable to the scholars in it. This principle has been successfully applied in Lynn. --Here, at present, the Primary, the Intermediate, and the Principal Schools span over the whole School life. The High School only seems to be wanting.[42]

Regarding possible arrangements, the Committee suggested two: first, a separate high school could be established; second, high school departments might be attached to several principal schools. In its next report, the Committee advocated the former option on the grounds that the latter would not "answer the intent of the law," and further, that "it is seriously questionable whether it would be expedient to establish them."[43] The report continued to note that an academy in town already offered high school level instruction, and proposed that it, with master Jacob Batchelder, be merged into the public school system. Finally, in the second term of the 1849-50 school year, the latter proposal was put into effect. The school was crowded and not centrally located, but it did complete, perhaps mostly symbolically at this time, the system of public schooling in Lynn.

As new grades of schools were distinguished and established, new types of ends and means became appropriate. As has already been argued, the modern urban ideology placed its stress upon the development of a moral character in the individual. This required an important shift in the conception of the student from one who becomes literate enough to read the Bible and thus have his soul saved to one who becomes something--a good and knowledgeable person. Due to this change, pedagogy moved from the art of coercing learning, to one of molding the affections, as well as of imparting knowledge. The period before 1850 in Lynn may be characterized as experimental in this regard. An example of an early transitional technique is described in the 1831 report of the School Committee. One school requires, it reads,

> every scholar at the close of each half day to review his conduct at school for that time, and to pass sentence of approbation or disapprobation upon himself, and receive a reward accordingly. It is believed by your committee that if this principle of discipline could be carried into all our schools it would be a valuable improvement, and produce a happy influence upon the moral character of our youth.[44]

Here the student is still fundamentally a learner, but now a learner of feelings. Two years later, the school committee praised the recently introduced, although occasional, use of music in the schools as a means of promoting morality. This, it must be recognized, constituted a radical departure from tradition, for it was not that the student would learn about music from instruction, but that the music experience would positively affect the child's character. To put it another way, the goal was not that the child know good music, but that he be good, like the music. By 1850, the school committee explicitly recognized this function. Noting that music adds to "the happiness and well-being of all," it advocated the hiring of a music teacher, which "would mean a great gain to the morals and habits of [the] children."[45]

With such a pedagogical perspective, the teacher came to be perceived as one of the most, if not the most, important factors in the schooling process. "The character of the school," states the 1845-46 report, "must depend *primarily* on that of the teacher . . ." As might be expected, this would be most important in the primaries.

> Proper success in such schools requires talents of a high order; a heart at once affectionate and courageous; a mind original, vivacious, fruitful and ardent even to occasional enthusiasm; fluency of utterance, aptness in illustration; and especially that knowledge of the human heart, that quickness of perception, depth of feeling, mildness of temper, and purity of spirit, so needful, in the formation of character and in the education of the moral affections.[46]

In the higher grades of schools, too, the teacher had a significant job to do. There the emphasis, at least in terms of the subjects of instruction, was upon the more traditional end of mastery of information, but now taking into account motivational factors. School committee members recognized that if one is to learn, one must become involved with, or interested in, material at hand. Teachers apparently retained more traditional notions of learning, however, than did committee members. The following passage from the 1849-50 report makes this clear: "The great deficiency of our system now is, that it is based almost entirely upon a mere knowledge of *words*, and from first to last proceeds upon this method, hardly recognizing the fact of the existence of things."[47] Thus, whether in terms of character formation or of the mastery of information, great educational advances could be made. But for this to occur, the system--especially the teacher--

must be brought into line with the new ideal. To achieve this end, supervision became of greater importance than ever.

Discussion of the issues associated with administration did not get under way in earnest until the late 1840s. This is not to say, however, that school committees before that time did not take their work seriously. For instance, the committee members for the 1834-35 school year stated that, like others before it, they considered themselves "guardians of the mental and moral cultivation of the youth of this town."[48] But it was not until the institutional base became more complex and differentiated that sophisticated thinking regarding administrative matters became necessary or even reasonable. Thus it is not surprising that administrative issues were not clarified until about the same time that the outline of the system came to completion.

The turning point came when Lynn received its city charter. The existence of two types of governing bodies--the several prudential committees (also known at different times as ward or district committees) and the one school committee (earlier called superintending committee)--had increasingly caused more problems than it had solved. An untenable situation had come to pass whereby the school committee was responsible for the supervision of teachers hired by someone else--the prudential committees. At any rate, the new charter changed all that, and much more. Before, the school committee members had been elected from a general ticket, without regard to ward of residence; now, every ward had one representative on the general committee, each of whom assumed the duties of a "ward committee." Each of these was responsible for the operation of the schools within its jurisdiction, while the high school, serving the city as a whole, was controlled by a special committee.[49] Besides all of this, the School Committee as a whole now had the real power, unlike any of its predecessors,

> not merely to test the amount of knowledge committed to the memory by each pupil, but to satisfy themselves as to the mode of instruction, the mental discipline acquired, the power of independent thought developed, the general tone of feeling, and the relation between the teacher and pupils.[50]

In 1850, the means of centralization and comprehensive control had been achieved. Now all that remained was to use these means to insure that Lynn's educational efforts were directed toward producing knowledgeable, disciplined youth.

The period from 1850 to 1870 may be characterized as a time of diversification of function and growth in absolute size of the system of schools. The population explosion, of course, constituted the occasion for this, and the School Committee had to respond. In the 1850-51 school year, forty-seven total classrooms (2 high school, 16 grammar, 9 intermediate, and 20 primary) accommodated children from a population (1850) of 14,257. The School Committee that year consisted of fifteen members: two ex officio (the Mayor, and the President of the City Council); one each from the city's nine wards; and four elected at large. All served one-year terms. In 1855, in the interest of extending its ability to control the system, the committee reorganized somewhat, by arranging itself into five standing committees (school books and apparatus, finances, school houses, examination of teachers, and fuel) and four visiting committees (one each for the high school, the grammars, the intermediates, and the primaries). This form of organization remained essentially unchanged until 1870, with the two most significant exceptions being: first, in 1864 the committee merged the intermediates into the grammars (most of them shared buildings, anyhow), thereby diminishing by one the number of visiting committees; and second, four school districts were established (including all grammars and primaries within the boundaries of each) so that the total number of visiting committees was now 5. By 1870, 28,233 people lived in Lynn, and ninety-two school rooms (5 high school, 45 grammar, and 42 primary) were in operation.

Lack of adequate and appropriately organized space for the grammars and the primaries was a persistent difficulty for school committees throughout this period. Although five new buildings had been added between 1845 and 1850, by 1860, overcrowding especially in the primaries had become a real problem. Out of the fifty-six primary rooms that year, eleven averaged over eighty children in attendance (sometimes over 100), at a time when educators agreed that seventy was the maximum number of children that should be allowed if good work was to be done.[51] With so many pupils per class, the importance of discipline was compelling, without reference to larger social issues. When the school committee thought about the physical plant, however, crowding was not the only consideration--proper organization, too, was a big factor. And in the case of the grammar schools, it became clear to the committee, at least as early as 1845, that if it was to provide the kind of education desired, the actual organization of the schoolrooms had to be altered:

> The old system of one large room, where the principal remains to have in charge one-half of all the scholars of his assistants all the time, as well as those he directly instructs, is injurious to his health, comfort and efficiency, and is now being superseded, or has been, in all our large cities, by the just plan of an equal distribution of labor, under which arrangement each teacher governs and keeps in her own room, all the time, all the pupils she instructs.[52]

The Committee pressured the City Council on this matter, and finally announced in 1868 that different accommodations would soon be ready for four of the grammar schools--two new buildings, and two others reconstructed from ones used originally for city government purposes. The following year, the committee report expressed satisfaction with the two new buildings, although it noted further that two other wards would soon have urgent needs. New buildings there, they argued, were necessary "for the accurate grading and classification which are of such vital importance to the efficiency of our schools."[53] In 1870, the school committee reported that due to the great population increase of the past ten years, several new grammar school buildings had been put up. Their old ones, they continued, had in turn been occupied by primary schools, schools that by virtue of the extreme youth and thus immobility of their clientele, had to remain dispersed throughout the city.

Not only was the school committee required to provide adequate buildings to house the school system; it also had to develop and arrange the organizational sequence that would define for the student his public school career. Population increases consistently caused problems of overcrowding; but on the other hand, the existence of rather large numbers of children at the schools also provided the necessary conditions for a highly classified system in which students' progress depended on their academic achievement. This seemed a great opportunity to the school committee. Divisions and sub-divisions could be established--at least theoretically--until all students in a given class would be at almost exactly the same level of advancement.[54] With this type of arrangement, the teacher could work with many as well as with one, with no time wasted on those who were behind. To this end, school committees spent much time and energy working on the closely related problems of gradation of schools and classification within them.

To illustrate this point, it is instructive to consider two of the issues that received much of the committees' attention: first, the refinement of the sub-system of primary schools; and second, the incorporation of the intermediates into the grammar schools. Let us begin with the primaries. Recall that they had been established to provide a more substantive educational experience for the youngest children who had previously been required to sit unsupervised and idle while the teacher listened to the older children recite. By 1850, however, it was evident to the school committee members that the primaries, too, contained within themselves children of significantly varying levels of achievement, and further, that significantly different learning situations were needed if these children were to be dealt with most effectively.

> In eighteen small, though crowded schools of the town, may be seen, together, the incongruous mingling of children who ought not to study, ought not to sit still, who ought to be amused and interested and receive instruction only as play, with children who have passed

> over this first boundary, and begin to reason, to apply their minds to books, and preserve stillness and order.[55]

Clearly, these children should be separated, and therefore the committee suggested the establishment of "either more intermediate schools, or a grade of alphabet schools, where all engage in general exercises. . ."[56] Finally the 1860 report announced that five such experimental schools were now in operation. Organized in buildings already occupied by two primary schools, "the division was made on the hypothesis that there are six classes in a properly arranged Primary school. The three upper classes form the upper school, and the three lower the alphabet school." By this organization, each child experiences "constant occupation, suited to his years and capacity."[57] The experiment became established policy, and in 1870 the forty-five schools were now divided into eighteen upper primaries, and twenty-two sub-primaries, with only three remaining as mixed primaries--these latter to be found in the most sparsely-populated sections of the City. Clearly, school committees in Lynn had all they could do to keep up with organizational problems--broader social concerns increasingly received less of their attention.

Within the same twenty year period, the school committee completely reversed itself on the value and necessity of intermediate schools. Here, again, problems of internal organization received almost the total attention of the committee. Noting the anticipated continuation of population growth, the committee in 1853 expected that many new schools would have to be built. It further stated, indicating a faith in the viability of the intermediate school as a permanent institution, that "it will probably be found to be a better policy, as well as better economy, to raise the standard, and multiply the intermediates, than to establish new grammar schools."[58] The schools prospered (at least in the eyes of the committee members), and in 1861 the annual report proudly announced that "in accordance with the conviction that uniformity of character and attainment simplifies the duties of the teacher, the grading system has been applied to these schools also."[59] Only two years later, however, things appeared quite different.

> While the grading system has been heartily endorsed in the Primaries, it may well be doubted whether it does not need essential modification in the Intermediates. The educational ground covered by both grades . . . can be accomplished by many scholars in one year, and it is manifest that unless we resort to semi-annual promotions, or make some other change, injustice is done to such by keeping them back. . . . A crisis has now been reached in the history of this grade; whether the difficulties of next year can be met as were those of this year, cannot now be determined. In the opinion of some, the time is not far distant when we must follow the example of Boston and other cities, and merge our Intermediates in our Grammar schools. This involves changes in our Grammar schools, particularly in our school-houses, for which we are not now prepared.[60]

The change was made, however, only five months later. The 1864 report states the committee's reasons for deciding upon the mergers. First, as indicated just above, a bad educational situation had developed whereby many students, ready to progress to grammar school work, were required to bide their time until the yearly promotions. This, concurrently, caused a difficult problem for the grammars, because they had to face times of large influx of students and others of deficiencies of numbers. With the mergers, however, the grammars would be kept full, with the principal able to promote qualified students from intermediate classes as soon as they could be accommodated. Next, if merger had not occurred, more intermediates would have had to be opened. This would have compounded an already difficult discipline problem caused by the fact that no authority figure existed to control the entire building. But with the new arrangements, one principal would have responsibility for the whole school. Thus, "A burden, with respect to general discipline and order, has been taken from the shoulders of the /female/ Intermediate teachers and placed upon the male principals, and order, in each yard, and with all the scholars, is preserved with greater ease and efficiency."[61] Finally, there would be a significant saving in future expenses. "This plan centralizes our schools, and in future provision for accommodations, one large building will be required instead of four or six smaller ones; and it is readily seen that true economy is attained thereby."[62] This new form of organization constituted a four year course of study, through which the student would pass in a sequence of a minimum of six class levels. By 1866, the process of merging the grammars and intermediates was completed.

As we have seen in the years prior to mid-century, school committees experimented with pedagogical techniques in an attempt to affect significantly and positively the development of each student's character, especially in the primaries. This process became more intricate in the two decades after 1850. This occurred, first because institutional conditions, characterized by the diversification described above, provided a broader and richer field for possible school committee educational action--that is, there was a lot going on that stimulated thought regarding possible future schooling arrangements. Second, the new structure of the school committee itself--enlarged and differentiated--allowed individual committee members the opportunity to concentrate more strongly on pedagogical matters. Two sets of criteria had to be satisfied before any pedagogical technique or curricular material could be incorporated into the public school system. The first, of course, and most obviously, was that such techniques and materials must be expected to achieve in the student the results sought by the school committee--a minimal level of literacy and good character formation. The second, less obvious but increasingly important, was that the techniques and materials must facilitate the functioning of the school system as such. If the proposed policy did not satisfy both of these it had no chance of being implemented.

School committees faced the very difficult and continuous problem that the uniform system of schooling and instruction would degenerate into mechanical teaching and learning. As the school committee put it in 1856, there was a danger in the "uniform plan of public education" being pursued in Lynn.[63] There was, the members realized, the chance of "mechanical drill superseding living assimilation; of mere external facility in the parrot-like repetition of the words of the book taking the place of a real ability to think."[64] Over the years, committee members struggled with this fear. By the 1860s, they had come to advocate a pedagogical technique called object teaching, whereby learning would be meaningful instead of abstract. In 1866 the committee report described the value of object teaching for instruction in the primaries.

> Object teaching is in accordance with nature and art as they exist around us and are understood by the scholars, assumes as known only what is known by the pupil, begins with reality and passes onward from the known to the acquisition of further knowledge, till the abstract can be understood and properly appreciated. It demands something more than mere expression of words without comprehension; it requires thought and understanding, as well as verbal expression.[65]

The report further advised that a modified version of object teaching be used in the grammars, although it also noted its shortcomings.

> Simplification, demonstration and object lessons are all proper and very beneficial, especially in the lower classes, but the learner should always bear in mind 'That there is no royal road to learning.' Every scholar must be taught to practice self-reliance, to labor with his intellect, to think and understand for himself.[66]

The main point, however, was that "There is too much memorizing, and not sufficient thought."[67] In 1868, the committee adopted a new "course of study" called "oral instruction." ". . . much stress is laid upon this method of teaching, and topics are suggested suited to each grade of schools."[68] This method was just what the school committee members had been looking for: it would actually involve the student in the study of materials chosen or approved by the school committee. "In these exercises, it is the teacher's aim to excite the curiosity of children, in order to show them how to gratify it; to lead them to form habits of enquiring, rather than to accummulate isolated facts."[69] By the use of such a method, in other words, the student would be persuaded to study what the School Committee asked instead of being forced to study what he was told. The latter method, it seemed, worked better. In neither case, however, did it occur to the school committee to consult the student as to his preference.

The new pedagogical ideas also met the second criterion of acceptability--they helped to maintain the system. This occurred as the teacher drew the pupil into a relationship founded upon the affections. The 1857 report states characteristically, "In some schools there is not the same degree of precise order and regular drill as in others; but there is a kindly feeling existing between teacher and pupil, and a motherly influence which accomplishes good results."[70] In other words, realized the school board members, teachers had the ability to maintain order (and therefore facilitate the functioning of the system) merely by disapproving of the child's actual or envisioned "disorderly" or "immoral" acts. The 1863 school report states, for instance, that the teacher should act "as an effectual and continual restraint. The pupil should not feel that he is away from the eye and ear of the teacher, and thus, by scarcely crossing the threshold, the unexceptional decorum of the school be outraged by the unrebuked flow of profanity, or by obscene words and acts."[71] More directly related to instruction, the teacher's ability to interest the child in an innocuous activity would tend to keep him out of mischief: "The secret of good order and improvement is to keep those that are not reading or reciting so interested in drawing or printing upon the slate or blackboard as not to disturb others by their restlessness or roguish pranks."[72] It was from this point of view, then, that school committees consistently opposed, except in the most extreme cases, the use of corporal punishment. Thus the 1857 school report advocated moral discipline:

> That is the only "discipline" worthy of the name, which makes the pupils discipline themselves; which is constantly tending towards habits of self-respect and self-government; which has no need of temporary restraints and petty punishments, because the greatest punishment of all is the consciousness of deserving it.[73]

School Committee members had learned a good lesson--in many cases, psychological force is more effective than physical force.

By 1870 Lynn's school system, as an educational organization, had achieved the essential form it would maintain well into the twentieth century. The fundamental assumptions regarding pedagogical and curricular matters had been clarified and embodied in system-wide policies, and visiting committees did all they could to assure their complete implementation. Particular techniques and subjects to be studied might vary after this time, but the basic thinking on these matters would never be challenged. Also by 1870, the grading of schools had been completed--the sub-primary, primary, grammar, and high school sequence would continue to define the system. After 1870, that is, the organizational arrangements would continue to define the educational policies and bureaucratic stages through which the children of Lynn were expected to pass. The size of the system, however, did continue to increase, and with this came significant changes in the mode by which school committees tried to control it. Beginning around 1870 a shift in the school committee's emphasis occurred: Before, the concern had been to determine good educational policies and to organize a system of schools to embody them; now, with this already achieved, the problem was to administer it. This would be a difficult job, as we shall see, because although the form had been set, the content had not. During the remaining three decades of the century, the system grew as it had never grown before.

The size of Lynn's school system more than doubled between 1870 and 1900. As before, steady increases in population served as the main reason for the growth. Beginning in 1870 with a population of 28,233, Lynn had 68,513 residents by the turn of the century. This represents a growth factor of over 2.4. The rise in average daily attendance (a.d.a.) at the schools reflects this increase. In the primaries, for example, the a.d.a. for the fall, 1870 term was 1,935. By 1899 the corresponding figure had reached 4,633, a growth of 139 percent. A similar increase occurred in the grammars. There the a.d.a. for the fall, 1870 term was 1,722. This increased to 3,712 by 1899. This represents a growth of 115 percent, not as great as the primaries', but nevertheless a doubling in average daily attendance. The greatest percentage increase occurred at the high school level. In 1870 the a.d.a. for the fall term was 150. By 1899 the number had reached 748 (the combined figure for the Classical and the new English High School). This represents almost a four-fold increase, more than twice the rate of population increase. As population and attendance grew, so did the numbers of teachers employed, the numbers of classrooms in operation, and the total annual expenditures. In each of these cases, also, the percentage of increase was well over one hundred.

While Lynn's pedagogical policies--object teaching, oral instruction, and discipline by moral suasion--remained constant for the remainder of the century, some curricular changes were discussed. In each case they reflected the school committee members' on-going committment to prepare the individual to fit into society as it was given at any particular time. It is in this context that successive school committees discussed the grammar school curriculum, and intermittently sponsored night schools. Regarding the grammars, committee reports consistently asserted that "the change in character of our population owing to rapid growth, has introduced a large number of scholars who cannot avail themselves" of the High School.[74] While these future laborers remain, stated the 1869 report, teachers in the grammars should try to instill in them "the love of knowledge."[75] The next year, the school report noted that "in view of the pupil's liability to a premature conclusion of his studies," the grammar schools should so "shape his instruction as in the best manner to answer the requisitions of practical life."[76] By 1876, the school committee asserted that "it seems specially desirable that the instruction here given shall be as thorough as possible in those branches which in after life shall meet the every-day wants of the mechanic, the trader, and of every class filling the ordinary ranks of society, whether men or women."[77] Although the committee reports expressed this concern, little in the way of structural changes resulted.

Evening schools were another half-hearted attempt to make Lynn's schools relevant to the "ordinary ranks." The 1868 school report expresses the point of view from which they approached this issue.

> Our system of public instruction should be enlarged so as to reach all classes. The city contains a large number of boys and girls whom necessity obliges to forego the advantages of the day schools, and to work in the shop and elsewhere. For such young people we know no means of supplying even a little necessary knowledge better than by a system of well-conducted Evening Schools. . . . The laboring class of the city, composed largely of young people, demands the establishment of such schools; and we recommend the subject to the immediate consideration of the next Board.[78]

The following year the committee opened four evening schools--two for males and two for females--as an "experiment." Because attendance appears not to have been particularly high, the committee asserted, "It is believed that an extension of the plan, to embrace a central school of a higher grade, where practical Bookkeeping, the higher Mathematics, and similar branches should be taught, would serve a useful purpose."[79] By 1870, classes operated in each of the four largest wards. But problems soon appeared. Attendance was not as high as expected, and, more importantly, a trend seemed to be developing whereby children who should have been in day school attended night school instead. These problems continued, and in January, 1872 the school committee voted to discontinue the schools. For the following decade, the school committee occasionally opened evening schools, but usually found that attendance was too low and too inconsistent. Finally, after changes in management procedures, the night schools reopened in October, 1883. From that time, at least through the end of the century, they were a constant, though insignificant, part of Lynn's public school system.

It was the major concern of the school committee, beginning in the late 1860s, to achieve the most complete control possible over the growing public school system. This concern found expression in the way the supervisory function was performed. One of the most difficult problems, in this connection, was the fact that, as the number of schools grew, committee members increasingly had trouble finding time to make enough visits. And this meant that a uniformly high quality of instruction could not be expected. "There is," states the 1869 report, "a lack of uniformity in the studies of schools of the same grade, while the general exercises and oral instruction, which constitute the charm of some schools, are wholly unknown to, or receive little attention in others." The report notes further that this was the case, at least partially, because without constant supervision teachers tend to allow their efforts to "flag." The passage concludes by asserting, on the basis of the problems just described, the need to hire a superintendent of schools.[80] The committee would wait until 1880, however, before finally taking its own advice.

Before hiring a superintendent, the school committee tried three different techniques to achieve adequate supervision. First, it petitioned the City Council to amend the City Charter so as to increase the number and length of terms of school board members. Thus in 1870 the school committee was reconstituted in the following form: the Mayor and the President of the City Council sat as _ex officio_ members; seven members, each representing one of the city's seven wards, were elected to one-year terms; and twelve additional members, four of whose terms would expire annually, were elected for three-year terms. By virtue of this new arrangement, school board members expected to achieve better continuity and effectiveness in performing its supervisory function. The committee, second, extended significantly the administrative function of the grammar principals begun at the time of the intermediate-grammar school mergers, by putting them in charge of supervising the various departments within their own schools (1870), and finally by placing all primaries within their respective wards under their purview (1872). Third, and finally, sometime in the mid-1870s, they instituted the practice of administering standardized, written examinations to all students in the high school and the grammars, at the end of each term. (They had already conducted oral examinations in the primary schools.) By these means committee members hoped to determine strengths and weaknesses throughout the system, and thereby be in a better position to achieve a uniformly high level of schooling in Lynn.[81]

Between 1877 and 1880, the committee members talked more seriously about hiring a superintendent. As the 1877 report argued, the present supervisory arrangements were working well enough, but perhaps they could work even better under one person. A superintendent would be a specialist in education, a quality that could not be expected of board members. Furthermore, with a superintendent in charge, instead of the board, there could be achieved a larger "degree of uniformity and singleness of method."[82] By 1879 the committee, less and less satisfied with its own ability, recognized the "necessity of giving the schools more thorough and uniform supervision." Recently board members had not been able to keep up with the growth of the system, and teachers had become "discouraged by the lack of interest."[83] It was finally decided to appoint, as an experiment, a superintendent for the remainder of the school year. They voted unanimously to hire Mr. O. B. Bruce of Binghamton, New York, to fill the position. His work went well, and the school committee asked him to continue his service. The 1880 report describes the new supervising arrangement:

> The theory of the management of the schools now is, that the Superintendent is at the head of educational affairs, and has the assistence of a Committee who shall legislate in accordance with his suggestions, if, after intelligent survey, based on knowledge of its own, it sees fit to do so. The Superintendency does not do away with the necessity of school visitation, and a study of current educational ideas on the part of the Committee. If anything, it is more needed than ever, in order to work out the best results from suggested innovations from an expert on educational matters, as the Superintendent is.[84]

Although the school committee members continued to visit schools, the process of professionalizing school administration had begun. Within a very few years of his being hired, Superintendent Bruce held effective control of most aspects of administration, including policy determination. The appointment of a superintendent, then, was the final step that completed the process of the evolution of a set of relatively separate district schools into a modern public school system.

III. Conclusion

By way of conclusion, it might be interesting to pick out several issues mentioned in the text and analyze them from a more critical point of view. The first two, though important, may be disposed of rather quickly. To begin, the enormous significance of population growth must be stressed. To a great degree, the press of children determined the ultimate organizational form of the system. Second, while ends may remain constant, successive policies designed to implement them may change and even appear to contradict each other. Recall, for instance, the rise and fall of the intermediate schools. Committee members first strongly supported them, then abolished them. Yet they made both decisions from exactly the same point of view. This occurred because the environing institutional structure had changed to the degree that the former policy had been rendered contradictory to the aims that produced it. Thus, policy determination must be understood to exist in a dialectical relationship with the processes of institutional evolution. Lynn's school committee members no more directed than responded to the organizational situation as it developed and presented itself to them. As with the case of population growth, factors outside the control of Lynn's citizens, as individuals or as committee members, determined to a great degree the shape the system would take.

Let us now turn to the modern urban ideology and try to determine its significance. It was perhaps most important in two non-bureaucratic connections: first, in determining the perspective by which pedagogical judgments would be made; and second, in defining a theory of action. In each case it proved to be too narrow to deal effectively with the situations it was believed to embrace.

Regarding pedagogy first, because adherents of the modern urban ideology accepted the social structure as good by definition, the individual had to be molded and prepared to fit smoothly into it.

This meant that the fundamental problem for educators was to achieve as complete control as possible over the growth of the child. To this end they began to pay serious attention to the mental and physical processes that defined the growing youth. They found, for instance, that learning occurs when the subject-matter is comprehensible and interesting--a truth that seems self-evident today. Certainly these insights constituted real advances in understanding the learning process, and with this there should be no quarrel. Difficulties begin to arise, however, as the uses to which these insights were put are considered.

The fundamental problem was that the pedagogical techniques developed from these insights failed to take into account the integrity of the student as an acting, thinking, and intrinsically valuable human being. They were extremely manipulative in character. As we have seen in the case of the primary schools, for instance, educators emphasized techniques that would interest the student in his assignments, not because it is good that the child engage in interesting activities, but because greater control over that person's development might be achieved in this way. More importantly, by use of such techniques, the student by definition is relieved of the ability and opportunity to make decisions. He no longer is allowed control even of his own preferences. In other words, it is one thing to present materials from various points of view so that a person will have a fair opportunity to appreciate and possibly work with them; it is quite another matter, however, to create the psychological conditions whereby those same materials cannot be resisted. In this direction lies tyranny--the opportunity to choose, in any meaningful sense of the term, is eliminated. Lynn's school people should not, however, be blamed for allowing this situation to develop--they never adequately comprehended it. This failure to understand occurred because the modern urban ideology could not distinguish between facilitated learning and psychological force. In the world represented by such a view, all good individuals share allegiances that combine to protect the unquestionably good and therefore true social order. Thus all teaching designed to prepare one for life in that order must be good and true. In such a context, how could one prefer that which would destroy the good life? This was unthinkable, and therefore so was the distinction. If a pedagogical technique worked, it was good. That this view is patently false (at least to many of us today), indicates a real weakness of the modern urban ideology.

There is another perhaps more fundamental problem with this ideology: it contains an inadequate conception of action, and therefore a false view of the nature of moral responsibility. This came to pass because people failed to perceive some of the most important implications of corporate institutional life. Corporate institutions in the form of industrial organizations first appeared in England in the last third of the eighteenth century. By the nineteenth century they had spread far and wide, now moving outside the industrial context to include prisons, asylums, school systems, and the like. Their greatest virtue was that they could incorporate great masses of materials and people into an ordered structure that would enable theretofore unimagined, yet desirable, ends to be achieved. This was well understood and appreciated throughout the Western world. In Lynn corporate structure came to fruition not only in the shoe industry but also in the public schools. What people failed to understand was that the decisions of those in control of such institutions could also have extremely far-reaching negative effects. Thus people valued the shoe industry for providing conditions of stability and opportunity: it produced and sold shoes, bringing wealth to the city--a process easy to perceive and understand. At the same time, however, as traditional culture and work relations were required to accommodate themselves to the new manufacturing conditions, disruption occurred throughout society--poverty, ignorance, and vice seemed to increase and threaten the new industrial and social order.

Tragically, people were not adequately prepared to think through these problems: traditional notions of social order, defining it largely in terms of the individual's character, kept the analysis away from the fundamental issue--institutional dynamics and relations. This tended to benefit private property or business interests to the detriment of the common man. Because injustice in corporate organizations was perceived in terms of moral failures of individuals, the powerful and the powerless alike considered the types and styles of corporate control as technical, not moral, problems. It was from this perspective that workers and bosses in Lynn thought about, defined and reached a fairly stable consensus regarding acceptable conditions for industrial and social stability and opportunity. And it was furthermore from this point of view that citizens of Lynn supported the public school system and the character-formation service it was intended to perform. Unfortunately, this meant that the schools would continue to embody, and by implication teach an outmoded theory of social action--outmoded because it continued to emphasize individual character and did not take into account the nature of social relations in a corporate society. It is in this sense that the public schools may be said to have served private or business interests, but this occurred because of a failure of thought--apparent greed, exploitation and the like being as much the consequences as the causes of the situation.

What can be said in summary? First, on the most superficial level, the adult citizen got what he asked for. Workers and bosses, parents and educators seem to have shared a modern urban ideology, which, in conjunction with population growth and institutional evolution, guided administrative decisions about schooling in Lynn. The system grew, and children traced a path through it. It is impossible to say how this process affected each child, but surely some learned while others failed to learn, and some enjoyed while others were indifferent or miserable. Furthermore, it is not clear that teachers used the psychological insights into the nature of the child's development to manipulate children to the degree that pedagogical theories proposed. Teachers, reacting as people, must have developed a range of relationships with the students, and in the process formed classrooms that were not cooly manipulative. To the extent, however, that character formation dominated the aims of the school system--and it certainly was a central aim--we must conclude that education in this nineteenth century city was fundamentally inadequate. It is debatable whether effective formalized character training is possible to attain; but it is clear that even if it were, social morality or justice would not thereby be achieved. If the good life is to be built and maintained, knowledge of the nature and function of the modern corporate institution is required. The schools of Lynn failed to instruct in such matters (clearly, they were not alone), and by virtue of that fact did not prepare future adults to comprehend fully and control, to the extent made possible by objective conditions, their destinies.

FOOTNOTES TO CHAPTER X

1. Paul G. Faler, "Workingmen, Mechanics and Social Change: Lynn, Massachusetts 1800-1860." Ph.D. dissertation, University of Wisconsin-Madison, 1971, p. 60. The information for this paragraph came from Faler, pp. 6-60; also see Alonzo Lewis and James R. Newhall, History of Lynn, Essex County, Massachusetts: Including Lynnfield, Saugus, Swampscot, and Nahant. Boston: John L. Shorey, 1865.

2. For a good chronological overview of the growth of Lynn in this period, see James R. Newhall, History of Lynn, Essex County, Massachusetts: Including Lynnfield, Saugus, Swampscott, and Nahant. Vol. II. Lynn: The Nichols Press, 1897, pp. 35, 73, and 276-77. For the population figures, see the United States Census for 1800 and 1830.

3. Newhall, History of Lynn . . ., Vol. II., pp. 277-78; Faler, "Workingmen, Mechanics and Social Change," passim; and the United States Census for 1830 and 1850.

4. Most information for this paragraph is taken from Newhall, History of Lynn . . ., Vol. II., pp. 35, 39, 45, 55, 57, 67, 278-82, 331-42, and 352; population figures are from the United States Census for 1850 and 1900; the Lynn Directory, Lynn, 1854, pp. 160-9 constitutes the "Business Directory," and pp. 177-78 lists the churches; the Lynn Directory, Lynn, 1901, pp. 805-68 constitutes the "Business Directory" for that year, and the churches are listed on pp. 876-9.

5. For 1855 figures see Statistical Information Relating to Certain Branches of Industry in Mass., For the Year ending June 1, 1855 (Boston, 1856), p. 140; for 1865 figures, Statistical Information Relating to Certain Branches of Industry in Mass., for the Year ending May 1, 1865 (Boston, 1866), p. 159, and Census of Mass.: 1875. Vol. II (Boston, 1877), p. 879; for 1880 figures, Census of Mass.: 1880 (Boston, 1883), p. 548; and for 1895 figures, Census of the Commonwealth of Mass.: 1895. Vol. V (Boston, 1900), p. 601.

6. Paul Faler, "Workingmen, Mechanics and Social Change," p. 217.

7. Ibid., p. 343.

8. Ibid., ch. IX.

9. Alan Charles Dawley, "The Artisan Response to the Factory System: Lynn, Massachusetts, in the Nineteenth Century." Ph.D. dissertation, Harvard University, 1971, pp. 47, 86.

10. *Ibid*., pp. 233, 238.

11. *Ibid*., pp. 303, 305.

12. *Ibid*., p. 196.

13. *Ibid*., p. 219.

14. *Ibid*., pp. 209-12.

15. *Ibid*., pp. 308-9; a short biographical sketch of Sanderson's life appeared in the 14 Dec. 1878 issue of the *Lynn Reporter*. *Lynn Reporter*, 27 Nov. 1878.

16. Dawley, "The Artisan Response . . . ," p. 312.

17. Quoted in *Ibid*., p. 313.

18. *Ibid*., pp. 313-14.

19. *Ibid*., p. 317.

20. On the general question of character forming institutions see David J. Rothman, *The Discovery of the Asylum,* Boston: Little, Brown and Co., 1971.

21. Faler, "Workingmen, Mechanics and Social Change," pp. 207-8.

22. See Carl F. Kaestle, *The Evolution of an Urban School System: New York City 1750-1850,* Cambridge: Harvard University Press, 1973.

23. *Ibid*., pp. 220, 221.

24. *The Awl*, 8 March 1845.

25. Michael B. Katz, *The Irony of Early School Reform,* Cambridge: Harvard University Press, 1968, pp. 1-2.

26. *The Awl*, 1 March 1845.

27. Lynn, Mass., Mayor, *Inaugural Addresses, 1850-1861.* [Lynn Public Library], 3 Jan. 1859, p. 12.

28. *Ibid*.

29. Lynn, Mass., Mayor, *Inaugural Addresses, 1850-1861.* [Lynn Public Library], 7 Jan. 1861, p. 6.

30. Lynn, Mass., Mayor, *City Documents, 1876-1878*. [Lynn Public Library], Jan. 1879. pp. 12-3.

31. Lynn, Mass., Mayor, City Documents, 1879-1881. /Lynn Public Library/, Jan. 1880, pp. 15-6.

32. See An Exposition of the Course Pursued by the School Committee of the City of Lynn in Relation to Samuel W. King . . . (Lynn, 1857); and the Lynn Reporter, September 14 and 25, and October 2, 1878.

33. David N. Johnson, Sketches of Lynn, Lynn, Mass.: Thomas P. Nichols, 1880, p. 378.

34. Quoted in Johnson, Sketches of Lynn, pp. 382-83.

35. Quoted in Ibid., p. 383.

36. Quoted in Ibid., p. 392.

37. Quoted in Ibid., pp. 392-93.

38. Lynn, Mass., School Committee, Annual Report, 7 March 1822, p. 8; Annual Report, 1824, p. 99; Annual Report, 1837-38, p. 4; and Annual Report, 1850-51, p. 1.

39. Examples of this appeal may be found in almost every annual report, beginning at the latest in 1823. This would seem to indicate that as far as the children were concerned, district schools were just as unpleasant as the later more systematized ones.

40. Annual Report, 1827, pp. 189-90.

41. Annual Report, 1849-50, pp. 24-5.

42. Annual Report, 1847-48, p. 8.

43. Ibid., p. 12.

44. Annual Report, 1831, p. 272.

45. Annual Report, 1849-50, p. 22.

46. Annual Report, 1845-46, p. 7.

47. Annual Report, 1849-50, p. 21.

48. Annual Report, 1834-35, pp. 500-1.

49. Annual Report, 1850-51, p. 2.

50. Annual Report, 1849-50, p. 4.

51. Annual Report, 1860, pp. 7-9.

52. *Annual Report*, 1865, p. 7.
53. *Annual Report*, 1869, p. 29.
54. *Annual Report*, 1865, p. 12.
55. *Annual Report*, 1850, p. 24.
56. *Ibid*.
57. *Annual Report*, 1860, pp. 5, 6.
58. *Annual Report*, 1853-54, p. 11.
59. *Annual Report*, 1861, p. 7.
60. *Annual Report*, 1863, p. 11.
61. *Annual Report*, 1864, p. 7.
62. *Ibid*.
63. *Annual Report*, 1856, p. 7.
64. *Ibid*.
65. *Annual Report*, 1865, pp. 14-5.
66. *Ibid*., p. 21.
67. *Ibid*., p. 22.
68. *Annual Report*, 1869, p. 32.
69. *Annual Report*, 1870, p. 17.
70. *Annual Report*, 1857, p. 4.
71. *Annual Report*, 1863, p. 9.
72. *Annual Report*, 1865, p. 10.
73. *Annual Report*, 1857, pp. 15-6.
74. *Annual Report*, 1869, p. 18.
75. *Ibid*., p. 20.
76. *Annual Report*, 1870, p. 29.
77. *Annual Report*, 1876, p. 44.

78. Annual Report, 1868, p. 58.

79. Annual Report, 1869, p. 25.

80. Ibid., pp. 4-5.

81. Annual Report, 1876, pp. 13-4.

82. Annual Report, 1877, p. 5.

83. Annual Report, 1879, p. 37.

84. Annual Report, 1880, p. 17.

CHAPTER X

CONCLUSIONS

I. Recapitulation

In the following section we summarize the more important conclusions of the various studies, with a view toward constructing a complex description of the relationships between educational development and social change in nineteenth-century Massachusetts. Some of the passages that follow are paraphrases of the research results and interpretations we presented in the preceding chapters; other conclusions are repeated ver batim.

Chapter II argued that the discussion of education in the early national period has too long focussed on the concerns and proposals of the Founding Fathers, which had little impact at the local level. We believe that the lag between the Revolutionary period, when leaders emphasized the necessity of schooling for an educated citizenry, and significant state intervention in schooling, which did not take place until the 1830's and 1840's, is best explained by the fact that local public and private schooling was widespread in the early nineteenth century and was considered ample by most people in the American Northeast. However, we dispute Albert Fishlow's speculation that there was probably little or no rise in total enrollment rates in the period 1800 to 1830. Using available public school data from New York State, we charted a substantial rise to 1830, after which enrollment rates levelled off.

Rural and urban solutions to schooling needs were different in the early national period. On the basis of information from New York City, Boston, and Salem, we demonstrated that school enrollment in large commercial cities was approximately the same in the early nineteenth century as at mid-century, that they were generally lower in both periods than small-town and rural rates, and that in the cities there was a marked shift from private to public schooling.

Town size was negatively associated with enrollment rates, even at these early dates (1800 in New York State, 1826 in Massachusetts). Small farming towns, like Glenville, New York, displayed relatively high enrollment rates from the mid-1820's, when the earliest records begin, until mid-century. The rates were stable, and there was no shift from private to public schooling such as in the commercial centers. While the shift from private to public almost entirely accounts for the rising public enrollment rates in the cities, the rural areas probably experienced rising enrollment rates prior to 1830, and the increases cannot be accounted for by a shift from private to public because there was very little private schooling in small farming communities.

Our examination of the evidence reestablishes the capacity of the educational institutions of the late eighteenth and early nineteenth centuries to increase the extent of schooling in the American Northeast in the decades prior to the common school "revival." Thus we cannot rule out the possible contribution of education to rising productivity, if not through cognitive training then possibly through attitude formation. Also, we should no longer assume that state intervention was necessary in this period in order to maintain widespread rudimentary education. Two quite different unregulated modes of schooling, characteristic of commercial cities and rural communities, had by 1800 resulted in enrollment rates that were high compared to other nations but that were still capable of expansion in the period 1800 to 1830. Per capita consumption of schooling in the American Northeast was probably increasing substantially before the reforms of the late 1830's. The magnitude of the increase is undetermined, but it was substantial, even when private schooling is accounted for, and it took place not in the cities but in the towns and villages of the hinterland.

Chapter III traced trends in Massachusetts school attendance from 1840 to 1880. There we discussed in more detail the complexities and confusions involved in the historical study of school attendance rates. These we summarized under four headings: the confusion of different types of attendance figures; the noncomparability of annual school enrollment figures with cross-sectional census figures; shifts in required reporting categories over time; and the unreliability of private school data. Research on these matters led us to the rather discouraging conclusion that the margin of error attributable to these data problems may sometimes be as great or greater than the magnitude of the actual historical trends. Undaunted, however, we constructed what we consider to be the best possible set of time series for Massachusetts school attendance from 1840 to 1880. These displayed the following trends.

There was a marked decrease in the proportion of school children in private schools, from 13.8% in 1840 to 8.4% in 1880. However, the campaign against private schooling was only partially successful. What occurred was not a victory over separate elite schooling, but rather a conversion of low-priced pay schools, local academies, and subscription schools into town-controlled, tax-supported schools.

Although the public school system expanded rapidly in this period, to keep pace with population increases and the shift from private to public schooling, there was a slight but steady decline in the total per cent of children enrolled in all schools during these decades. The enrollment decline may be attributed to several causes. First, overall enrollment was already very high by 1840, particularly if we look at children in the age range from eight to thirteen years old, almost all of whom, rural and urban, attended school at some point during the year. Public policy would therefore have had to be aimed at the age extremes in order to expand the enrollment rate. However, and this is the second reason, educators were vigorously attempting to decrease the school attendance of very young children during this period, as we documented in detail in Chapter V. Third, industrialization in this period meant increased child labor opportunities, and many urban families needed the income of their teen-aged children. Fourth, immigration increased problems of ethnic and religious conflict, which alienated some groups from the public schools. Finally, school people were themselves rather lukewarm about persuading or coercing the resisting minority to attend school because they were viewed as the most problematic in attitude or irregular attendance habits. Thus, while unemployed truants made school officials and social reformers anxious, public policy was not aimed at increasing total enrollment rates, which declined during this period largely because of declining rates of enrollment among young children, who stayed at home, and older children, many of whom were working.

In contrast, the average number of days of school attended per child zero to nineteen years old was increasing during these decades. Average days of schooling per child in the society is determined by two components: average daily attendance and average length of school session per year. Trends in these variables were as follows. Average daily attendance was roughly stable, when expressed as a percent of all children under twenty. As a percent of all children enrolled in school, however, average daily attendance rose from 62.4 per cent to 76.4 per cent during this period. Educators' campaign for regular attendance was having some effect. The length of the public school year increased substantially in Massachusetts in this period, from 150 days in 1840 to 192 days in 1880. School officials argued for it, and urbanization fostered it. As a result of that increase, plus the stable average daily attendance, the average number of days of school attended per year, expressed as an average for all children in the population, rose during this period from 60.6 days to 71.6 days.

Massachusetts was in this sense, therefore, a more "educated" society in 1880 than it had been in 1840. The increase may have contributed to productivity in the later stages of industrialization, when skill requirements rose. More certainly, our attendance figures signify a custodial and educational shift from family to school, a widespread and seemingly irreversible increase in the extent of state intervention in the rearing of the young.

Histories of urban education have been imprecise in their use of the concept of urbanization. In Chapter IV we attempted to clarify the relationship between urbanization and schooling in nineteenth-century Massachusetts. The notion that urbanization should be defined by the demographic dimensions of size and density, with other economic and cultural factors treated separately, is supported by the sociological literature on the rural-urban continuum, and we proceeded with this strict definition.

The systematization of public schooling in Massachusetts coincided with rapid urbanization. However, the notion of an "urban crisis" as a central cause of the extension and bureaucratization of education should be treated with some caution. The perception of urban crisis may have been much deeper and more worrisome in a few particular cities than in general. Furthermore, rural problems also figured prominently among educational reformers' concerns.

Leaving aside the question of causes at the outset, we documented systematic correlations between population size and many educational characteristics of Massachusetts towns. Specifically, town size was negatively related to total enrollment and average daily attendance; size was positively related to the length of the public school year, to greater expenditures, to large pupil-teacher ratios, to more pupils-per-school, to a higher proportion of female teachers, to higher wages, and to greater sex discrimination in wages.

Educational differences in different sized towns were marked and consistent in 1840, 1860, and 1875, although there was some tendency to convergence over time. Town size is a common and convenient way to talk about rural-urban differences. However, population size was not, in itself, a very significant statistical determinant of educational differences when we controlled for other characteristics of the towns. Multivariate analysis (multiple regression) yielded the following associations. When controlling for other variables, total school enrollment rates were not significantly associated with population size, commercial development, per capita wealth, or per capita expenditures on pauper relief. Enrollment was negatively and significantly related to population density, to the proportion of the work force engaged in manufacturing, and to our measure of Catholic church strength. It was positively related to our measure of general church participation (church seats per capita). Variations among communities in the percent of children under five and children over fifteen enrolled in school were even more pronounced and were best predicted by our density measure, which also measures agricultural status. Children at the age extremes were enrolled in school at greater rates in sparsely populated, agricultural towns.

When controlling for other variables, the length of public school session was also not significantly related to a town's total population. It was strongly and negatively related to population density. Commercial status was positively related to longer school years, as was the per cent of the population foreign-born. Our religious variables, as well as per capita wealth and pauper expenditures, were not significant predictors of length of public school year.

Like the above education variables, days of schooling per child was not significantly related to a town's population size when other town characteristics were controlled. Density was significantly related to days of schooling attended per child, chiefly because of the shorter school year in sparsely populated towns. Among the denser towns, again, commercial status was significantly related to more education received per child. Per capita wealth, pauper expenses, and the proportion of the population foreign-born were not significantly related to this variable. As with total enrollment, church capacity related positively and Catholic church capacity negatively.

In sum, our effort to clarify and empirically measure the impact of urbanization on schooling led to an emphasis on density. Despite the common use of population size figures to describe the rural-urban continuum, educational variables were more clearly related to the density and the agricultural status of mid-nineteenth-century towns. Sparsely populated towns had a higher proportion of their children enrolled at school, particularly at the youngest and oldest age ranges. Their school sessions were shorter and consequently the days of school consumed per child was lower. This seems consonant with the role of children and of education in agricultural communities, which valued common schooling for its social as much as for its intellectual functions, but whose patterns of seasonal labor and relatively meager financial resources encouraged short school sessions.

We introduced other measures of social and economic development that occurred with urbanization but were not synonymous with it. Among the denser, larger towns, there appeared different school attendance patterns in the more highly commercial and the more highly manufacturing towns. Other things being equal, a town with a higher proportion of merchants in its work force also displayed higher levels of educational supply and participation, while towns with a large percent of their work force engaged in manufacturing experienced the disruptions of industrialization, including lower educational participation, whether because of child labor opportunities, indifference, or cultural conflict. Independent of workforce characteristics, both religion and immigration had strong associations with some educational variables, underscoring the fact that schools were a stage upon which important cultural dramas were played. Urbanization, if carefully defined, is only one factor in the complex educational development of Massachusetts towns in the nineteenth century.

One of the instruments through which reformers attempted to upgrade schooling and eradicate rural-urban differences in mid-nineteenth-century Massachusetts was the state Board of Education, an institution made famous by Horace Mann. Even in its early years, however, when its powers were weak and its main effort exhortatory, the Board met substantial and vociferous opposition. In Chapter V we analyze the most serious challenge to the Board of Education. The election in 1840 of a Democratic governor committed to fiscal retrenchment spelled an opportunity for opponents of the three-year-old state Board. A bill to abolish the Board made it through committee and was considered by the House of Representatives in that year. Opponents decried the Board as wasteful and as an improper incursion on local control of schools.

There is plausible impressionistic evidence to support the view that this controversy was a matter of Democratic opposition to a Whig institution, or of opposition by orthodox Congregationalists to the nonsectarian policies of Horace Mann and his Unitarian supporters, or of rural opposition to the centralizing policies of urban industrialists and social reformers. To assess the relative importance of these different--though perhaps compatible--explanations, we examined the personal and constituent characteristics of the legislators who participated in this roll-call vote.

Party was indeed by far the best single predictor. Sixty-seven percent of the Democrats approved of abolishing the Board while 81 percent of the Whigs opposed the bill, and the association with party remained strong when other measurable factors were controlled. On this issue, the traditional view of basic philosophical differences between Whigs and Democrats appears valid. The vote and the debates reveal optimistic, interventionist Whigs behind the Board while Democrats fearful for their liberties opposed it. Nonetheless, substantial numbers of legislators from both parties ignored party position; moreover, they were more likely to do so if the town they came from was not "safe," that is, if their party had only a precarious hold on their town's voters.

The next best predictor of a legislator's position on this bill was the economic development of his town. Those from towns with a high proportion of the work force engaged in commerce or manufacturing heavily supported the Board of Education. Both dimensions of economic development were of comparable importance; manufacturing; as a legislator or a constituent characteristic, did not play a unique or a dominant role in Board support. Town size played a role here similar to its association with school enrollments, length of school year, and other variables we investigated in Chapter IV: legislators from small communities were more opposed to the Board, but not because of their population size _per se_; after controlling for other variables, this factor washes out. Small communities opposed the Board of Education because they were less developed economically and tended to send more farmers and more Democrats to the legislature than other communities.

The third best predictor was region. Although the pattern of support from towns near Boston was complex, legislators from Western Massachusetts tended to oppose the Board. This pattern was significant even after controlling for other variables such as town size, economic status, and political party affiliation. Being farthest from the center of control, the western legislators were the least enthusiastic about central direction in education.

Factors that had relatively little impact on the position of a legislator, when controlling for other variables, were: the occupation of the legislator, the age of the legislator, the number of years he served in the legislature, the wealth of his town, and various measures of religion in his town--whether it had a Unitarian church, whether ministers served on the school committee, and whether the Bible was used as a school book.

Beyond party affiliation, it seems, town characteristics were more important factors than characteristics of the legislators themselves. Among the town characteristics, regional, political, and economic variables were more important than religious ones. Despite the clear religious motivations of some of the protagonists in the debate, then, it seems that Horace Mann had successfully defused the religious issue within the Massachusetts House of Representatives.

In sum, our multiple classification analysis allowed us to demonstrate that the influence of party, while paramount, was substantially modified on this issue by the socioeconomic characteristics of the legislators' towns. A central state Board of Education not only made more sense to one party than to the other; it also made more sense in some settings than in others.

One of the most substantial rural-urban differences in nineteenth-century Massachusetts was in the age structure of school enrollments. Because the impact of the school system on children's lives is governed initially by when they enter school, and because the appropriate age for school entry became controversial in the mid-nineteenth century, we devoted Chapter VI to an analysis of this important life course event: the transition from family to school. In the process we learned much about changing nineteenth-century attitudes toward young children.

In colonial Massachusetts, children were not treated as a distinctly different category from adults. Children were, however, considered innately sinful and in need of strong discipline and religious training. The family was chiefly responsible for the education of young children, and literacy training was deemed appropriate as early as possible. By the early nineteenth century, schools had become chiefly responsible for educating children, and very young children were commonly in school, as early as age three.

In the period from 1830 to 1880 a reaction against the schooling of young children occurred, chiefly for the following reasons: (1) the growing emphasis on childhood education at home, reinforced by increasing stress on mothers' role in the home, (2) stress on the need for gradual and balanced child development, including the fear of insanity caused by excessive intellectual activity at a very young age, and (3) the emerging bureaucratic structure of public schooling, into which very young children did not fit.

Despite this new conventional wisdom, parents were slow to respond. Educators complained that parents stubbornly sent their three and four-year-old children to school despite admonitions, and enrollment rates verify the practice. The lag between educators' advice and parents' desire to send young children to school was essentially eliminated by 1880, partly through the implementation of local regulations against the enrollment of children under five years old. In the period 1830 to 1880, then, the boundary between family and school became more sharply demarcated. The waning of the harsh Calvinist view of infants, along with the dissemination of Lockean and Pestalozzian notions of the unique emotional, physical, and intellectual needs of pliant but frail children, fostered the delineation of a distinctive stage of childhood: the pre-schooler. Schools became more age-graded, standardized, and regimented, while the early childhood years became more protected, both through the postponement of intellectual training and the later entry into school. The new relationship between school and family was initiated by school spokesmen and child-rearing theorists; parents adjusted only gradually and reluctantly. Despite periodic reform enthusiasm for early schooling, as in the early kindergarten movement, the developments of the mid-nineteenth century established a durable legacy: for most children, the first major life course event is the abrupt transition at age five from a protective, personal family to an age-graded, task-oriented school.

Chapter VII continued the study of life course decisions involving school enrollment. We analyzed the determinants of school entry and school leaving in eight towns in Essex County in 1860 and

1880. The communities included three cities and five rural towns. In a descriptive introduction we established that child labor laws were weakly enforced and rarely affected the age groups we studied--children between four and eight and children over thirteen. In cities the school system was more bureaucratically developed and made special types of schools available to particular groups; but cities also offered more diversions and alternatives to youth, especially more opportunity for full-time, non-seasonal work. In the rural towns schooling was more compatible with family and work and may have served a more prized social role as well.

Within the communities we investigated school entry and leaving patterns among different social groups by using multiple classification analysis on large samples of individuals in the 1860 and 1880 federal census. Attendance patterns of children aged four to eight involved relatively small differences among different subgroups in the towns, defined by occupation, ethnic origins, and various economic and demographic characteristics. The main conclusion was that age itself was by far the strongest predictor of school attendance among these young children. At a given age, however, the likelihood of a child's attendance was associated with other variables in the following manner. Rural attendance rates of young children were consistently higher, as expected; illiteracy of a parent had the expected negative association but involved a tiny number of cases. Girls attended school earlier and in greater numbers than boys, but only slightly. Our attempt to measure the effect on school attendance of the ratio of workers to consumers in the child's family did not yield a meaningful relationship. Parent's occupation was not a strong predictor of young children's attendance, though children of semi-skilled and unskilled parents enrolled in higher proportions, suggesting that they were the groups least receptive to educators' pleas to keep young children at home. Contrary to the argument that working mothers used the schools for the custody of young children, however, employed mothers in households without fathers were less likely to send their children to school than the mothers who remained at home. Ethnicity had an effect only at the extreme of the newly-arrived, foreign-born children in 1880, who were less likely to attend school; there was no other consistent difference in the school attendance by young children of foreign-born and native parents. The effect of the age of the child's parent was not dramatic and was curvilinear: peak attendance by young children occurred for parents in the 35 to 39 year-old age group in both 1860 and 1880. Despite these variations associated with community and family variables, young children in our Essex County towns seem to have had a similar rather than a highly differentiated school enrollment pattern as young children.

Their teen-aged contemporaries had to weigh several factors in deciding whether to remain in school, and these varied according to community type and family characteristics. Thus, school leaving was more sensitive than school entry to the variables we could measure. At a given age, the likelihood that a teen-aged child would be enrolled in school was associated with rural residence, higher occupational status of the parent, native ethnic status, and female sex of the child (a slight difference). The influence of our work-consumption index on teenage school attendance was difficult to interpret, but suggested that teenagers were less likely, rather than more likely, to attend school if a large number of persons in their family worked. The age of a child's parent had no systematic relationship to school attendance in the teen years.

In sum, although family and community variables influenced the timing of these transitions, both decisions (and especially school entry) were governed very strongly by the subject's age. However, there were surely substantial differences in the quality and the quantity of education received by children from different groups once they entered school, differences that are not revealed by our crude data on school entry and school leaving. Nor do we wish to minimize the differences that do appear in our data, particularly with regard to school leaving. A small difference could mean a lot, not because schooling was so precious, but because choices were shaped by cultural differences and economic exigencies. Whatever teenagers may have learned while they were in school, they surely learned something in the process of school leaving about how their world was ordered.

In an effort to determine how the demographic and economic development of different nineteenth-century communities affected the organization and purposes of schooling, we conducted detailed studies of two of our Essex County towns, Boxford and Lynn. These were written by Martha Coons and John Jenkins respectively, and they were presented in Chapter VIII and Chapter IX.

Chapter VIII analyzed education in Boxford, a marginal agricultural community characterized after 1860 by economic stagnation, declining population, and cultural isolation. Whether this lack of "progress" was a problem or a blessing was a matter of some debate in Boxford; in either case, these factors strongly influenced the town's attitude toward education.

Boxford's district schools were small and ungraded; the teacher turnover was frequent. The schools were devoted to teaching basic skills and to inculcating discipline, enforced by the rod. These had been the goals of rural schooling long before nineteenth-century reformers began worrying about juvenile delinquency, truancy, crime, and vice. Although Boxford school committees complained about irregular attendance, they took little action against truants, and complaints about social disorder, characteristic of urban school reports, were absent in Boxford.

In a community faced with outmigration and declining productivity, financial resources for education were scant, and long debate ensued before allocating money even for proper outhouses. District committees hired a constant procession of cheap, inexperienced teachers, and despite their traditional skepticism about the ability of women to teach common schools, they eventually turned to this practice for economy. Short summer and winter school sessions suited the work responsibilities of farm children and kept school budgets low.

The people of Boxford resisted educational innovation, and they fought strenuously against the centralization of control over their schools. They also resisted such reforms as the standardization of textbooks and the establishment of a high school. Boxford's schools in the nineteenth century, hardly something a state school official would beam about, were nonetheless consonant with the localistic outlook, strong kin and neighborhood ties, and agricultural work of a town largely untouched by the social changes transforming urban society. Tight district control, modest budgets, short school terms--to most people in Boxford these seemed precisely the appropriate way to handle schooling. This was a community where the schoolhouse played a larger social role for young and old than in the cities, but where school instruction itself played a much more minor role in the upbringing of children.

Boxford had dissented from the educational modernization of Massachusetts, passively for the most part, vociforously when necessary. Boxfordians left to their twentieth-century heirs the problem of whether their schools should be accommodated to the world beyond the town's borders.

Unlike Boxford, Lynn underwent rapid social change in the nineteenth century, particularly in terms of population growth and manufacturing development. Chapter IX, a study of Lynn's educational development, completed this collection of essays. It analyzed two crucial factors in the development of that city's schools: the widespread acceptance of an urban ideology, which shaped attitudes about the purposes of schooling, and the rapid growth in population, which caused constant pressure for expansion of the school system and resulted in an enterprise of ever-increasing scale.

The urban ideology discussed in Chapter IX found broad support in Lymn, not only from social elites but from articulate working-class leaders as well. This set of beliefs promised security and growth to the social and economic system, and opportunity to individuals within it. Despite exploitative working conditions, growing worker alienation from owners, and increasing labor organization, working-class leaders acquiesced in the political and educational institutions of Lynn, and indeed, they did not develop a fundamental critique of the economic system. With regard to education, working-class leaders, like upper-class elites, espoused the view that social order and virtue derived from individual character formation and that schools were the proper instrument for individual reformation. Conflict over schooling, then, involved disputes about corporal punishment and about the attendance of truants or working children, not about the ideological and pedagogical underpinnings of the emerging urban school system. Urban ideology, and hence urban school systems, stressed the moral quality of individuals, and found widespread consensus.

Philosophical debate and basic rethinking were rendered even more unlikely by the press of numbers that constantly made Lynn's school facilities inadequate. School and town officials were constantly preoccupied with immediate, short-range problems arising from the increasing population, and many educational innovations were directed toward the accommodation and classification of increasing numbers of students. As the school system increased in size, two other trends helped transform urban schooling: the centralization and professionalization of control, and the elaboration and differentiation of levels within the school program. Pedagogical innovation, increased supervision, and bureaucratization all aimed at the dual purpose of the schools, efficient cognitive instruction and character formation.

In almost total contrast to Boxford, Lynn experienced rapid social and economic change in the nineteenth century, and its schools, reflecting this, were transformed. No more than for Boxford, however, should we assume that Lynn's educational history is a success story. While school officials managed to cope with population increases, and while citizens in general seem to have acquiesced in the system's means and ends, Lynn's schools also accepted and reflected the imperfect social relations of urban industrial society.

II. General Conclusion

These studies reveal that educational development was strongly related, in several ways, to demographic and economic development. In general, educational expansion and systematization proceeded apace with economic development and urban concentration. There were, however, also some short-run ruban-industrial disruptions and conflicts concerning education. For example, in dense cities, especially those with a large foreign-born population, cultural conflict and child labor inhibited school attendance even while reformers pressed for a greater supply of schooling and increased participation.

We have also documented clear differences between rural and urban areas in educational organization and style. As state intervention increased, and as state officials urged rural school reform, some clear resistance developed here too, for example, local opposition to increased expenditures and to district consolidation.

The general trend--across communities and across social groups--was toward a greater role for schooling in children's lives and toward ever more similar school experiences, in content and amount, for different children. Convergence and standardization could only proceed just so far, of course. Rural schools did not become exactly like urban schools, nor were children of different groups treated alike within schools. Yet the brunt of nineteenth-century state policy in Massachusetts education was to greatly strengthen the role of schooling in society and to make more similar the amount and type of education that children received.

Our quantitative sources tell us that this was so, and our literary sources tell us that reformers, social elites, and school officials thought it was a desirable and proper policy, with considerable popular support. Our statistics and our literary sources testify that those who advocated state intervention, increased schooling, and standardized education prevailed, sometimes over persistent opposition, but with considerable consensus, confidence, and self-congratulation.

Whether these historical generalizations provide a beacon for future state policy in education is doubtful. Historical justifications can be contrived for almost any policy. Our studies suggest that those who advocated efficiency, moral training, bureaucracy, and an increased role for schooling generally succeeded; and that those who defended non-intervention, local control, lower expenditures, and a limited role for schooling in society generally lost. More and more places became like Lynn, fewer and fewer like Boxford. Our studies do not tell us whether these trends in state educational policy have been effective or desirable, or whether they should be further fostered in the last quarter of the twentieth century.

What history can legitimately contribute to policy is perspective on what happened in the past and why. History can remind us that there were costs as well as positive achievements in the development of state school systems, and that the reasons for the particular kinds of state intervention we have detailed here were historically specific. Although they were firmly rooted in social structure and in American mainstream culture, they are neither God-given nor immutable.

APPENDIX A: TABLES REFERRED TO IN THE CHAPTERS

Roman numerals refer to chapter numbers.

TABLE III-1: TOTAL ENROLLMENT AND AVERAGE DAILY ATTENDANCE, MASSACHUSETTS PUBLIC SCHOOLS, 1840-1880

YEAR	number of children 0-19	PUBLIC SCHOOL ENROLLMENT, ALL AGES				PUBLIC SCHOOL AVERAGE DAILY ATTENDANCE			
		summer		winter		summer		winter	
		number	pct. 0-19	number	pct. 0-19	number	pct. 0-19	number	pct. 0-19
1839-40	325,019	124,354	38.3	149,222	45.9	92,693	28.5	111,844	34.4
1840-41	336,219	131,761	39.2	155,041	46.1	96,892	28.8	116,308	34.6
1841-42	344,650	133,448	38.7	159,056	46.2	96,525	28.0	117,542	34.1
1842-43	345,948	138,169	39.6	161,020	46.1	98,316	28.2	119,989	34.4
1843-44	365,403	147,405	40.3	169,191	46.3	104,553	28.6	122,327	33.5
1844-45	374,604	149,189	39.8	169,977	45.4	106,941	28.5	125,259	33.4
1845-46	383,805	153,459	40.0	174,270	45.4	110,108	28.7	128,084	33.4
1846-47	393,006	160,952	41.0	178,776	45.5	121,439	30.9	139,655	35.5
1847-48	402,207	165,132	41.1	185,000	46.0	123,046	30.6	143,878	35.8
1848-49	411,407	173,659	42.2	191,712	46.6	126,502	30.7	142,967	34.8
1849-50	420,607	176,344	41.9	194,403	46.2	128,815	30.6	149,609	35.6
1850-51	431,676	179,497	41.6	199,429	46.2	132,422	30.7	152,564	35.3
1851-52	442,745	185,752	42.0	199,183	45.0	136,309	30.8	152,645	34.5
1852-53	453,814	187,022	41.2	202,081	44.5	140,482	30.9	155,716	34.3
1853-54	464,883	186,628	40.1	199,447	42.9	141,226	30.4	154,277	33.2
1854-55	475,951	189,997	39.9	202,709	42.6	143,973	30.2	157,657	33.1
1855-56	483,770	198,746	41.1	209,036	43.2	151,621	31.3	162,580	33.6
1856-57	491,589	195,881	39.8	203,031	41.3	150,375	30.6	158,579	32.3
1857-58	499,488	199,792	40.0	218,198	43.7	154,642	31.0	175,526	35.1
1858-59	507,228	204,925	40.4	211,388	41.7	160,108	31.6	166,520	32.8
1859-60	515,048	207,939	40.3	217,334	42.2	162,785	31.6	174,582	33.9
1860-61	516,277	212,786	41.2	220,010	42.6	166,714	32.3	175,035	33.9
1861-62	517,506	223,218	43.1	227,319	43.9	175,424	33.9	182,360	35.2
1862-63	518,736	225,921	43.6	227,252	43.8	180,062	34.7	182,041	35.1
1863-64	519,966	223,957	43.1	226,400	43.5	177,364	34.1	181,669	34.9
1864-65	521,196	223,297	42.8	229,514	44.0	175,225	33.6	183,462	35.2
1865-66	534,405	230,894	43.2	231,685	43.4	182,912	34.2	187,358	35.1
1866-67	547,614	235,241	43.0	237,364	43.3	189,149	34.5	190,954	34.9
1867-68	560,823	242,760	43.3	243,425	43.2	195,216	34.8	199,228	35.5
1868-69	574,032	240,846	42.0	247,381	43.1	192,029	33.5	200,962	35.0
1869-70	587,240	242,422	41.3	247,080	42.1	195,956	33.4	203,468	34.6
1870-71	600,171								
1871-72	613,102								
1872-73	626,033								
1873-74	638,964								
1874-75	651,894								
1875-76	657,500								
1876-77	663,106								
1877-78	668,712								
1878-79	674,318								
1879-80	679,924								

Summer and winter combined after 1870. See TABLE 2, columns 13-18

TABLE III-2: LENGTH OF SCHOOL SESSION, ESTIMATED ANNUAL ATTENDANCE AND ENROLLMENT, MASSACHUSETTS PUBLIC SCHOOLS, 1840-1880

	10	11	12	13	14	15	16	17	18
YEAR	LENGTH OF PUBLIC SCHOOL				ATTENDANCE			ENROLLMENT	
	number of public schools	aggregate days school was held	state aver. length	aver. daily attendance (est.)	aggregate days of public sch. attended	aver. days public sch. per ch. 0-19	pct. of ch. 0-19 attending daily	total annual enrollment (est.)	pct. of ch. 0-19 enrolled
1839-40	3,072	462,180	150	102,271	15,340,650	47.2	31.5	180,310	55.5
1840-41	3,103	489,143	158	106,600	16,842,800	50.1	31.7	187,981	55.9
1841-42	3,198	511,128	160	107,036	17,125,760	49.7	31.1	192,418	55.8
1842-43	3,173	503,052	159	109,153	17,355,327	49.7	31.3	195,562	56.0
1843-44	3,336	543,747	163	113,440	18,490,720	50.6	31.0	206,042	56.4
1844-45	3,382	562,023	166	116,100	19,272,600	51.4	31.0	207,274	55.3
1845-46	3,475	577,422	166	119,096	19,769,936	51.5	31.0	212,635	55.4
1846-47	3,538	594,245	168	130,547	21,931,896	55.8	33.2	219,014	55.7
1847-48	3,653	612,365	167	133,462	22,288,154	55.4	33.2	226,283	56.3
1848-49	3,749	630,965	168	134,735	22,635,480	55.0	32.7	235,127	57.2
1849-50	3,878	626,857	162	139,212	22,552,344	53.6	33.1	238,488	56.7
1850-51	3,987	653,168	164	142,493	23,368,852	54.1	33.0	244,303	56.6
1851-52	4.056	673,450	166	144,477	23,983,182	54.2	32.6	223,926	50.6
1852-53	4,113	682,932	166	148,099	24,584,434	54.2	32.6	248,837	54.8
1853-54	4,163	697,282	167	147,752	24,674,584	53.1	31.8	246,104	52.9
1854-55	4,215	706,574	168	150,815	25,336,920	53.2	31.7	250,208	52.6
1855-56	4,300	723,781	168	157,101	26,392,884	54.6	32.5	258,722	53.5
1856-57	4,360	736,503	169	154,477	26,106,613	53.1	31.4	252,001	51.3
1857-58	4,421	748,696	169	165,084	27,899,196	55.9	33.1	268,146	53.7
1858-59	4,444	649,603	172	163,314	28,090,008	55.4	32.2	262,619	51.8
1859-60	4,497	772,933	172	168,683	29,013,476	56.3	32.8	269,319	52.3
1860-61	4,561	784,932	172	170,874	29,390,328	56.9	33.1	273,206	52.9
1861-62	4,605	802,437	174	178,892	31,127,208	60.1	34.6	283,123	54.7
1862-63	4,626	797,271	172	181,052	31,140,858	60.0	34.9	283,732	54.7
1863-64	4,675	808,129	173	179,516	31,056,354	59.7	34.5	282,389	54.3
1864-65	4,749	814,789	172	179,344	30,847,082	59.2	34.4	285,338	54.7
1865-66	4,759	817,690	172	185,135	31,843,220	59.6	34.6	289,409	54.2
1866-67	4,848	849,147	175	190,052	33,259,100	60.7	34.7	296,174	54.1
1867-68	4,937	871,843	177	197,222	34,908,294	62.2	35.2	304,115	54.2
1868-69	4,959	870,001	179	196,495	35,172,605	61.3	34.2	307,592	53.6
1869-70	4,963	892,801	180	199,713	35,948,340	61.2	34.0	307,685	52.4
1870-71	5,076	920,346	181	201,750	36,516,750	60.8	33.6	273,661	45.6
1871-72	5,193	955,891	184	205,252	37,766,368	61.6	33.5	276,602	45.1
1872-73	5,305	982,860	185	202,882	37,533,170	59.9	32.4	283,872	45.3
1873-74	5,425	1,012,509	187	210,248	39,316,376	61.5	32.9	297,025	46.5
1874-75	5,551	1,067,511	192	216,861	41,637,312	63.9	33.3	302,118	46.3
1875-76	5,542	1,067,166	193	218,903	42,248,279	64.3	33.3	305,776	46.5
1876-77	5,556	1,048,020	189	222,704	42,091,055	63.5	33.6	307,832	46.4
1877-78	5,730	1,100,990	192	228,447	43,861,824	65.6	34.2	310,181	46.4
1878-79	5,558	1,060,249	191	234,249	44,741,559	66.4	34.7	311,528	46.2
1879-80	5,570	1,068,654	192	233,127	44,760,384	65.8	34.3	306,777	45.1

TABLE III-3: ATTENDANCE AT INCORPORATED ACADEMIES, MASSACHUSETTS, 1840-1880

YEAR	19 number of academies	20 average enrollment	21 aver. daily attendance (est.)	22 total annual enrollment (est.)	23 length in days, aver.	24 total days attended
1839-40	78	3,701	3,331	4,441	213	709,503
1840-41	80	3,825	3,443	4,590	213	733,359
1841-42	75	3,805	3,425	4,566	219	749,966
1842-43	71	3,379	3,041	4,055	211	641,651
1843-44	72	3,760	3,384	4,512	216	730,944
1844-45	66	3,939	3,545	4,727	222	786,990
1845-46	67	3,726	3,353	4,471	228	764,484
1846-47	67	4,220	3,798	5,064	242	919,116
1847-48	67	3,862	3,476	4,634	232	806,432
1848-49	64	3,864	3,478	4,637	207	719,946
1849-50	67	3,717	3,345	4,460	220	735,900
1850-51	69	4,154	3,739	4,985	220	822,580
1851-52	71	4,220	3,798	5,064	220	835,560
1852-53	64	4,062	3,656	4,874	220	804,320
1853-54	66	4,142	3,728	4,970	220	820,160
1854-55	71	4,716	4,244	5,659	220	933,680
1855-56	70	4,708	4,237	5,650	220	932,140
1856-57	69	4,346	3,911	5,215	220	860,420
1857-58	70	4,338	3,904	5,206	220	858,880
1858-59	63	3,932	3,539	4,718	220	778,580
1859-60	65	3,561	3,205	4,273	220	705,100
1860-61	63	3,925	3,533	4,710	220	777,260
1861-62	57	5,119	4,607	6,143	220	1,013,540
1862-63	56	5,822	5,240	6,986	220	1,152,800
1863-64	59	6,131	5,518	7,357	220	1,348,820
1864-65	59	6,590	5,931	7,908	220	1,449,800
1865-66	52	7,364	6,628	8,837	220	1,620,080
1866-67	55	7,696	6,926	9,235	220	1,693,120
1867-68	48	6,572	5,915	7,886	220	1,445,840
1868-69	45+	7,048	6,343	8,458	220	1,550,560
1869-70	47	3,957	5,361	7,148	220	1,310,540
1870-71	46	6,345	5,711	7,614	220	1,395,900
1871-72	46+	8,065	7,259	9,678	220	1,774,300
1872-73	46+	7,573	6,816	9,088	220	1,666,060
1873-74	43+	8,863	7,977	10,636	220	1,949,860
1874-75	44+	7,594	6,835	9,113	220	1,670,680
1875-76	46+	10,176	9,158	12,211	220	2,238,720
1876-77	40+	8,739	7,865	10,487	220	1,922,580
1877-78	41+	8,454	7,609	10,145	220	1,859,880
1878-79	39+	8,662	7,796	10,344	220	1,905,640
1879-80	73+	10,398	9 358	12,478	220	2,287,560

TABLE III-4: ATTENDANCE AT UNINCORPORATED ACADEMIES, PRIVATE SCHOOLS, AND SCHOOLS KEPT TO PROLONG THE COMMON SCHOOLS, MASSACHUSETTS, 1840-1880

YEAR	25 number of schools	26 average enrollment	27 aver. daily attendance (est.)	28 total annual enrollment (est.)	29 length in days, aver.	30 total days attended
1839-40	1,308	28,635	25,772	34,362	140	3,608,080
1840-41	1,388	31,794	28,615	38,153	135	3,863,025
1841-42	1,281	28,422	25,580	34,106	144	3,683,520
1842-43	1,268	26,611	23,950	31,933	123	2,945,850
1843-44	1,238	25,850	23,265	31,020	141	3,280,365
1844-45	1,167	26,762	24,086	32,142	137	3,299,782
1845-46	1,091	24,318	21,886	29,182	128	2,801,408
1846-47	1,150	26,785	24,107	32,142	137	3,302,659
1847-48	1,096	27,216	24,494	32,659	122	2,988,268
1848-49	1,047	27,583	24,805	33,100	134	3,326,550
1849-50	845	19,534	17,581	23,441	164	3,203,576
1850-51	785	16,658	14,992	19,990	164	2,458,688
1851-52	749	16,131	14,518	19,358	164	2,380,952
1852-53	763	18,362	16,526	22,034	164	2,710,264
1853-54	674	17,322	15,590	20,786	164	2,556,760
1854-55	646	17,571	15,814	21,085	164	2,593,496
1855-56	701	18,909	17,018	22,691	164	2,790,952
1856-57	674	18,935	17,642	22,722	164	2,794,888
1857-58	672	18,044	16,290	21,653	164	2,663,360
1858-59	691	18,903	17,013	22,684	164	2,790,132
1859-60	640	15,933	14,340	19,120	164	2,351,760
1860-61	638	16,401	14,761	19,681	164	2,420,804
1861-62	611	16,175	14,558	19,410	164	2,387,512
1862-63	614	15,573	14,016	18,688	164	2,298,624
1863-64	611	16,124	14,512	19,349	164	2,379,968
1864-65	682	17,934	16,141	21,521	164	2,647,124
1865-66	596	16,387	14,748	19,664	164	2,418,672
1866-67	553	14,417	12,975	17,300	164	2,127,900
1867-68	550	13,957	12,561	16,748	164	2,060,004
1868-69	481	13,888	12,049	16,066	164	1,976,036
1869-70	466	13,916	12,524	16,699	164	2,053,936
1870-71	428	12,443	11,199	14,932	164	1,836,636
1871-72	463	13,687	12,318	16,424	164	2,020,152
1872-73	402	14,428	12,985	17,314	164	2,129,540
1873-74	402	13,144	11,830	15,773	164	1,940,120
1874-75	369	16,650	14,985	19,980	164	2,457,540
1875-76	341	14,513	13,062	17,416	164	2,142,168
1876-77	385	15,228	13,705	18,274	164	2,247,620
1877-78	399	15,540	13,986	18,648	164	2,293,704
1878-79	378	15,168	13,651	18,202	164	2,238,764
1879-80	350	-	-	15,891	164	-

TABLE III-5: ANNUAL ENROLLMENT AND ATTENDANCE, ALL MASSACHUSETTS SCHOOLS, 1840-1880

YEAR	31 annual enrollment (est.)	32 pct. of children 0-19 enrolled	33 enrollment, less dual attenders (est.)	34 pct. of ch. 0-19 enrolled, controlled for col. 33	35 total days attended (est.)	36 aver. days of school attended per ch. 0-19	37 pct. of ch. 0-19 attending school daily
1839-40	219,113	67.4	207,087	63.7	19,682,089	60.6	37.1
1840-41	230,724	68.6	217,370	64.7	21,455,791	63.8	37.7
1841-42	231,090	67.1	219,152	63.6	21,450,931	62.2	36.4
1842-43	231,550	66.4	220,373	63.2	20,942,828	60.0	36.1
1843-44	241,574	66.1	230,718	63.1	22,502,029	61.6	36.1
1844-45	244,143	65.2	232,903	62.2	23,359,372	62.4	36.1
1845-46	246,288	64.2	236,075	61.5	23,991,711	62.5	35.6
1846-47	256,220	65.2	244,970	62.3	26,153,671	66.5	38.2
1847-48	263,576	65.5	252,145	62.7	26,082,854	65.2	38.0
1848-49	272,864	66.3	261,279	63.5	26,681,976	65.2	37.5
1849-50	266,389	63.3	264,463	62.9	26,491,820	63.0	38.1
1850-51	269,278	62.4	269,278	62.4	26,650,120	61.7	37.3
1851-52	248,348	56.1	248,348	56.1	27,199,694	61.4	36.8
1852-53	275,745	60.8	275,745	60.8	28,099,018	61.9	37.1
1853-54	271,860	58.5	271,860	58.5	28,051,504	60.3	35.9
1854-55	276,952	58.2	276,952	58.2	28,864,096	60.6	35.9
1855-56	287,063	59.3	287,063	59.3	30,115,979	62.2	36.9
1856-57	279,938	56.9	279,938	56.9	29,761,921	60.5	35.7
1857-58	295,005	59.1	295,005	59.1	31,421,436	62.9	37.1
1858-59	290,021	57.2	290,021	57.2	31,658,720	62.4	36.2
1859-60	292,712	56.8	292,712	56.8	32,070,336	62.3	36.2
1860-61	293,710	56.9	293,710	56.9	32,588,392	63.1	36.6
1861-62	308,676	59.7	308,676	59.7	34,528,260	66.7	38.3
1862-63	309,406	59.7	309,406	59.7	36,592,282	70.5	38.6
1863-64	309,095	59.5	309,095	59.5	34,785,142	67.2	38.4
1864-65	314,767	60.4	314,767	60.4	34,944,006	67.1	38.6
1865-66	317,910	59.5	317,910	59.5	35,881,972	67.1	38.6
1866-67	322,709	58.9	322,709	58.9	37,080,120	67.7	38.3
1867-68	328,749	58.6	328,749	58.6	38,414,138	68.5	38.5
1868-69	332,116	57.9	332,116	57.9	38,699,201	67.4	37.4
1869-70	331,532	56.5	331,532	56.5	39,312,816	67.0	37.0
1870-71	296,207	49.4	296,207	49.4	39,749,286	66.2	36.4
1871-72	302,704	49.4	302,704	49.4	41,560,820	67.8	36.7
1872-73	309,774	49.5	309,774	49.5	41,328,770	66.0	35.6
1873-74	323,434	50.6	323,434	50.6	43,206,356	67.6	36.0
1874-75	331,211	50.8	331,211	50.8	45,765,532	70.2	36.6
1875-76	335,403	51.0	335,403	51.0	46,629,167	70.9	36.7
1876-77	336,593	50.8	336,593	50.8	46,261,255	69.7	36.5
1877-78	338,974	50.7	338,974	50.7	48,015,408	71.8	37.4
1878-79	340,124	50.4	340,124	50.4	48,885,963	71.2	37.9
1879-80	335,146	49.3	335,146	49.3	-	-	-

Table IV-1

The Urbanization of Massachusetts, 1800-1900

Year	Total Population	Percentage in Towns 2500 and Above	Percentage in Towns 10,000 and Above
1800	422,845	32.0	5.9
1810	472,040	37.4	9.8
1820	523,287	38.8	10.7
1830	610,408	44.5	12.3
1840	737,699	55.6	22.2
1850	994,514	69.9	32.5
1860	1,231,066	77.7	39.0
1870	1.457,351	81.2	49.3
1880	1,783,085	84.9	59.2
1890	2,238,943	89.5	65.9
1900	2,805,346	91.5	73.1

Source: Calculated from the U.S. Censuses, 1800-1900

Table IV-2

Number of Massachusetts Towns and Aggregate Population in the Sub-Groups for 1840, 1860, and 1875

Town Size	1840		1860		1875	
	N	Population	N	Population	N	Population
0- 1249	103	90,648	95	79,079	116	92,272
1250-2499	128	221,931	105	184,947	96	176,984
2500-4999	43	143,088	70	232,116	75	270,941
5000-9999	14	97,495	30	202,507	29	201,719
10,000 & Up	5	70,434	15	301,619	24	565,905
Boston	1	93,383	1	177,388	1	341,919
All Towns	294	716,979	316	1,177,656	341	1,649,741

Source: Calculated from U.S. Census of 1840, 1860, and the Massachusetts State Census of 1875.

Table IV-3 C

Percentage of Persons Ages 0-19 Attending Public School (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	62.4	16.9	57.7	10.7	54.7	8.6
1250-2499	58.6	13.0	52.5	9.0	52.6	7.6
2500-4999	52.0	7.3	49.0	6.9	49.7	6.5
5000-9999	42.9	10.7	45.0	5.2	46.7	5.2
10,000 & Up	36.8	7.7	45.8	6.5	45.3	7.5
Boston	32.4	0	38.8	0	42.5	0
All Towns	57.8	14.9	52.2	9.7	51.6	8.1

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-4

Percentage of Persons Ages 0-19 Attending Public School (Average Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	37.5	11.0	38.4	7.9	38.0	6.2
1250-2499	35.8	8.7	35.9	6.7	37.6	6.1
2500-4999	30.9	5.1	33.6	5.2	36.5	5.7
5000-9999	26.7	6.3	31.7	4.8	35.5	4.2
10,000 & Up	26.6	6.2	30.9	3.6	31.3	6.7
Boston	24.3	0	31.5	0	31.9	0
All Towns	35.0	9.6	35.5	7.0	36.9	6.2

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-5

Percentage of Young Children Attending Public School (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840 (Ages 0-3)		1860 (Ages 0-4)		1875 (Ages 0-4)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	17.2	15.1	12.1	5.6	6.2	4.1
1250-2499	15.0	11.8	8.9	4.6	3.6	2.6
2500-4999	11.9	11.5	7.1	4.0	2.4	1.8
5000-9999	5.5	6.1	4.6	2.7	1.0	1.1
10,000 & Up	5.9	7.9	5.9	7.1	.5	.6
Boston	0	0	6.9	0	0	0
All Towns	14.7	13.1	8.9	5.4	3.8	3.5

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-6

Percentage of Older Children Attending Public School (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840 (Ages 16-19)		1860 (Ages 15-19)		1875 (Ages 15-19)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	33.8	23.3	37.7	17.1	31.4	15.6
1250-2499	31.4	33.7	31.2	15.6	25.2	12.8
2500-4999	17.7	15.9	21.7	11.5	18.8	8.1
5000-9999	10.9	11.7	15.7	6.6	13.6	6.3
10,000 & Up	5.5	4.2	14.2	9.7	14.2	5.9
Boston	.4	0	7.7	0	12.7	0
All Towns	28.7	28.0	28.7	16.5	24.1	13.8

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-7

Percentage of Persons Ages 0-19 Attending Public and Private School (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	71.2	21.4	64.0	18.0	56.7	10.7
1250-2499	71.2	17.8	60.0	12.5	57.4	18.4
2500-4999	65.4	11.2	53.2	8.1	53.2	7.9
5000-9999	55.2	11.4	48.7	8.1	49.1	6.7
10,000 & Up	62.7	33.2	50.0	5.9	49.7	4.6
Boston	43.5	0	42.2	0	46.6	0
All Towns	69.4	19.0	58.1	14.2	55.0	12.7

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table No. IV-8

Average Length of Public School Session (in Days) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	136.0	33.7	137.4	35.2	154.3	22.5
1250-2499	138.1	40.0	146.7	28.4	176.3	22.9
2500-4999	160.0	45.5	172.2	33.7	187.7	19.9
5000-9999	197.0	51.1	200.0	36.1	204.7	18.7
10,000 & Up	246.2	21.5	230.7	36.8	214.8	9.5
Boston	264.0	0	228.6	0	201.9	0
All Towns	145.8	44.3	158.8	41.5	176.5	28.5

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-9

Number of Days of Public School Attended Per Person Ages 0-19 in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	50.9	18.9	51.9	13.3	58.2	10.1
1250-2499	49.5	16.4	52.1	11.9	66.1	12.8
2500-4999	49.3	15.1	57.7	14.3	68.6	13.0
5000-9999	50.5	10.0	63.9	16.3	73.0	12.3
10,000 & Up	65.5	16.4	71.0	14.8	67.3	14.7
Boston	64.2	0	71.9	0	64.4	0
All Towns	50.3	17.0	55.3	14.4	64.6	13.1

Source: Calculated from the U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875 ; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-10

Number of Days of Public and Private School Attendance Per Person Ages 0-19 in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	56.3	21.3	59.8	20.0	61.3	14.2
1250-2499	61.1	21.6	62.2	15.0	74.4	35.4
2500-4999	61.3	16.3	63.4	15.3	74.4	16.1
5000-9999	70.0	14.5	68.7	16.9	76.6	13.7
10,000 & Up	82.2	19.2	76.4	14.8	73.5	10.7
Boston	85.2	0	76.2	0	70.7	0
All Towns	60.3	20.9	63.1	17.3	70.1	23.3

Source: Calculated from the U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-11

Average Monthly Male Teacher Wages (in Dollars), Including Board, in Public Schools in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	22.60	7.50	24.60	12.81	33.07	25.73
1250-2499	25.90	6.49	33.92	12.78	61.04	40.27
2500-4999	28.91	4.87	46.96	16.01	91.65	39.14
5000-9999	40.14	13.62	67.37	21.27	122.25	43.89
10,000 & Up	48.00	10.56	88.07	19.09	158.31	36.55
Boston	105.00	0	155.00	0	226.38	0
All Towns	26.51	9.81	40.13	23.19	70.79	52.14

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-12

Average Monthly Female Teacher Wages (in Dollars), Including Board, in Public School in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	11.01	3.32	16.67	3.43	29.30	5.91
1250-2499	11.70	2.89	18.27	2.79	33.66	5.51
2500-4999	13.05	2.24	20.49	2.87	38.05	6.70
5000-9999	13.43	2.56	23.23	4.19	43.72	8.19
10,000 & Up	16.20	3.25	25.07	4.45	51.42	10.61
Boston	21.00	0	39.00	0	85.11	0
All Towns	11.85	3.15	19.14	4.19	35.40	9.50

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-13

Percentage of All Public School Teachers That Are Female in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	61.8	15.1	78.0	14.9	83.3	13.6
1250-2499	59.6	10.6	79.6	11.5	84.7	10.5
2500-4999	59.8	14.7	77.9	10.3	85.0	8.3
5000-9999	64.7	9.2	79.5	8.3	88.7	6.7
10,000 & Up	68.8	5.0	87.4	3.0	90.8	3.1
Boston	76.7	0	88.7	0	84.3	0
All Towns	60.8	13.0	79.2	12.1	85.1	10.9

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-14

Percentage Female Teacher Wages Are of Male Teacher Wages in Public Schools in Massachusetts in 1860 and 1875, Grouped by Town Size

Town Size	1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	59.1	12.2	74.2	18.6
1250-2499	53.8	11.4	60.7	24.0
2500-4999	47.0	12.6	46.8	18.4
5000-9999	36.8	9.1	37.7	15.4
10,000 & Up	29.0	4.3	32.9	3.9
Boston	25.2	0	37.6	0
All Towns	50.6	14.2	56.9	23.9

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1860 and 1875.

Table IV-15

Average Number of Pupils Per Teacher in Public School in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	27.3	6.8	21.5	6.4	12.2	4.4
1250-2499	31.4	8.3	26.4	5.4	18.3	5.7
2500-4999	32.8	8.9	32.4	6.0	23.7	5.8
5000-9999	38.0	9.0	36.8	5.9	28.6	5.7
10,000 & Up	43.8	5.5	40.1	6.1	31.4	4.7
Boston	46.9	0	46.8	0	32.1	0
All Towns	30.8	8.6	28.0	8.3	19.3	8.2

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-16

Average Number of Pupils Per Public School in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	26.3	7.4	20.6	6.7	18.7	5.7
1250-2499	31.9	11.3	26.5	6.1	26.7	6.5
2500-4999	34.1	9.4	34.4	8.7	33.3	6.3
5000-9999	42.7	15.2	43.3	10.0	41.0	6.4
10,000 & Up	63.7	14.7	59.7	14.1	53.7	40.2
Boston	83.7	0	89.3	0	87.2	0
All Towns	31.6	12.1	29.9	12.9	28.7	16.0

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-17

Public School Expenditures (in Dollars) Per Student (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	3.09	5.65	4.78	2.83	8.92	3.87
1250-2499	2.48	.89	4.43	1.14	10.93	4.91
2500-4999	2.81	.91	5.17	1.62	11.94	5.19
5000-9999	4.06	1.35	6.86	3.05	13.91	5.55
10,000 & Up	5.35	1.12	7.21	1.77	14.80	3.80
Boston	8.19	0	11.12	0	24.80	0
All Towns	2.88	3.45	5.68	2.29	11.04	5.04

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-18

Public School Expenditures (in Dollars) Per Capita in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840		1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	.84	1.29	1.12	.59	1.80	.60
1250-2499	.65	.18	.94	.22	2.15	.90
2500-4999	.65	.18	1.07	.36	2.31	.88
5000-9999	.73	.19	1.31	.56	2.61	1.03
10,000 & Up	.81	.13	1.36	.29	2.67	.78
Boston	1.04	0	1.75	0	4.02	0
All Towns	.73	.80	1.08	.44	2.15	.87

Source: Calculated from the U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table IV-19

Public School Expenditure as a Percentage of Assessed Valuation in Massachusetts in 1860 and 1875, Grouped by Town Size

Town Size	1860		1875	
	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	.21	.29	.33	.13
1250-2499	.18	.05	.30	.08
2500-4999	.20	.05	.35	.08
5000-9999	.21	.05	.31	.08
10,000 & Up	.21	.05	.31	.76
Boston	.10	0	.17	0
All Towns	.20	.16	.32	.10

Source: Calculated from the Massachusetts Board of Education Annual Reports for 1860 and 1875.

Table No. IV-20

Variables Used in Regression Analyses

Dependent Variables

Y_1	Percentage of persons under twenty enrolled in public or private school
Y_2	Average length of the public school year (days)
Y_3	Number of days of public and private schooling per person under twenty

Independent Variables

X_1	Total population
X_2	Number of acres of farmland per capita
X_3	Percentage of the population ages fifteen and up who are merchants
X_4	Percentage of the population ages fifteen and up who are engaged in manufacturing
X_5	Assessed valuation per capita (dollars)
X_6	Pauper expenses per capita (dollars)
X_7	Percentage of the population foreign-born
X_8	Number of church seats per capita
X_9	Number of Catholic Church seats per capita

Table No. IV-21

Correlation Matrix

	Y_1	Y_2	Y_3	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
Y_1	1.00	a	a	-.16	.38	-.18	-.33	.03	.07	-.14	.25	-.20
Y_2	a	1.00	.49	.31	-.63	.64	.18	.28	-.04	.27	-.17	.24
Y_3	a	.49	1.00	.13	-.25	.43	-.12	.24	0	.10	.08	0
X_1	-.16	.31	.13	1.00	-.27	.35	.10	.24	-.03	.18	-.10	.18
X_2	.39	-.63	-.25	-.27	1.00	-.57	-.49	-.15	.05	-.21	.25	-.25
X_3	-.18	.64	.43	.35	-.57	1.00	.09	.31	-.07	.17	-.12	.17
X_4	-.33	.18	-.12	.10	-.49	.09	1.00	-.09	-.06	.04	-.19	.24
X_5	.03	.28	.24	.24	-.15	.31	-.09	1.00	-.03	.07	-.06	.08
X_6	.07	-.04	0	-.03	.05	-.07	-.06	-.03	1.00	-.03	.04	-.03
X_7	-.14	.27	.10	.18	-.21	.17	.04	.07	-.03	1.00	-.11	.12
X_8	.25	-.17	.08	-.10	.25	-.12	-.19	-.06	.04	-.11	1.00	.21
X_9	-.20	.24	0	.18	-.25	.17	.24	.08	-.03	.12	.21	1.00

[a] not calculated

Table No. IV-22

Means and Standard Deviations

	Mean	Standard Deviation
Percentage of persons under twenty enrolled in public or private school	58.10	14.20
Average length of the public school year (days)	158.76	41.54
Number of days of public and private schooling per person under twenty	63.05	17.35
Total population	3726.76	10754.58
Number of acres of farmland per capita	7.96	5.95
Percentage of the population ages fifteen and up who are merchants	1.04	.89
Percentage of the population ages fifteen and up who are engaged in manufacturing	21.28	19.25
Assessed valuation per capita (dollars)	512.31	341.78
Pauper expenses per capita (dollars)	1.64	12.45
Percentage of the population foreign-born	15.94	35.86
Number of church seats per capita	.75	.31
Number of Catholic Church seats per capita	.03	.11

Table No. IV-23

Results of the Regression Analysis Predicting the Percentage of Persons Under Twenty Enrolled in Public or Private School in Massachusetts in 1860 (Y_1)

	Regression coefficient	Beta	T-test
Total population	-.0001	-.043	-0.78
Number of acres of farmland per capita	.5662	.237	3.20**
Percentage of the population ages fifteen and up who are merchants	.5154	.032	0.48
Percentage of the population ages fifteen and up who are engaged in manufacturing	-.0992	-.134	-2.18*
Assessed valuation per capita (dollars)	.0008	.019	0.36
Pauper expenses per capita (dollars)	.0480	.042	0.83
Percentage of the population foreign-born	-.0162	-.041	-0.78
Number of church seats per capita	8.6322	.191	3.45***
Number of Catholic Church seats per capita	-19.1424	-.144	-2.75*

Constant = 49.220

$R^2 = .222$

*** significant at the .001 level

** significant at the .01 level

* significant at the .05 level

Table No. IV-24

Results of the Regression Analysis Predicting the Average Length of the Public School Year (in Days) in Massachusetts in 1860 (Y_2)

	Regression coefficient	Beta	T-test
Total population	.0001	.032	0.75
Number of acres of farmland per capita	-2.7385	-.392	-6.95***
Percentage of the population ages fifteen and up who are merchants	16.7520	.358	7.04***
Percentage of the population ages fifteen and up who are engaged in manufacturing	-.1578	-.073	-1.56
Assessed valuation per capita (dollars)	.0095	.078	1.89
Pauper expenses per capita (dollars)	.0457	.014	0.35
Percentage of the population foreign-born	.1204	.104	2.60**
Number of church seats per capita	-4.7968	-.036	-0.86
Number of Catholic Church seats per capita	31.6215	.081	1.90

Constant = 161.810

$R^2 = .550$

***significant at the .001 level

** significant at the .01 level

Table No. IV-25

Results of the Regression Analysis Predicting the Number of Days of Public and Private Schooling Per Person under Twenty in Massachusetts in 1860 (Y_3)

	Regression coefficient	Beta	T-test
Total population	0	-.017	-0.33
Number of acres of farmland per capita	-.5304	-.182	-3.11**
Percentage of the population ages fifteen and up who are merchants	6.6927	.343	7.48***
Percentage of the population ages fifteen and up who are engaged in manufacturing	-.1479	-.164	-1.47
Assessed valuation per capita (dollars)	.0058	.114	2.21*
Pauper expenses per capita (dollars)	.0256	.018	0.44
Percentage of the population foreign-born	.0167	.035	0.74
Number of church seats per capita	9.1643	.166	2.05*
Number of Catholic Church seats per capita	-18.0237	-.111	-1.54

Constant = 53.916

$R^2 = .251$

***significant at the .001 level

** significant at the .01 level

* significant at the .05 level

Table VI -1

School Attendance of Young Children in Massachusetts, 1840-1900

Year	Number of Children in Public School		Percentage of Children in Public School	
	Under 4	Under 5	Under 4	Under 5
1839-40	7835		10.5	
1840-41	7823		10.2	
1841-42	7224		9.2	
1842-43	7337		9.2	
1843-44	7083		8.7	
1844-45	6997		8.4	
1845-46	6018		7.1	
1846-47	4782		5.5	
1847-48	3656		4.2	
1848-49	3326		3.7	
1849-50		17782		15.6
1850-51		17757		15.1
1851-52		18260		15.0
1852-53		17514		14.0
1853-54		16093		12.5
1854-55		15601		11.7
1855-56		14969		11.0
1856-57		13608		9.7
1857-58		12370		8.6
1858-59		10903		7.4
1859-60		10428		6.9
1860-61		10104		6.8
1861-62		8764		6.1
1862-63		7055		5.0
1863-64		5730		4.2
1864-65		5201		3.9
1865-66		4783		3.5
1866-67		3899		2.7
1867-68		3450		2.3
1868-69		3169		2.1
1869-70		2894		1.9
1870-71		2714		1.7
1871-72		2825		1.7
1872-73		2516		1.5
1873-74		2552		1.5
1874-75		2383		1.4

Year	Number of Children in Public School		Percentage of Children in Public School	
	Under 4	Under 5	Under 4	Under 5
1875-76		2084		1.2
1876-77		2058		1.2
1877-78		1945		1.1
1878-79		1934		1.1
1879-80		1833		1.0
1880-81		1685		.9
1881-82		1646		.9
1882-83		1616		.9
1883-84		1517		.8
1884-85		1465		.8
1885-86		1433		.8
1886-87		1375		.7
1887-88		1178		.6
1888-89		1130		.6
1889-90		2578		1.3
1890-91		3129		1.5
1891-92		2912		1.3
1892-93		3183		1.4
1893-94		3742		1.6
1894-95		4469		1.9
1895-96		5630		2.3
1896-97		6868		2.7
1897-98		7702		2.9
1898-99		8954		3.3
1899-1900		9895		3.5

Source: Calculated from U.S. Censuses of 1840, 1850, 1860, 1870, 1880, 1890, and 1900; Massachusetts State Censuses of 1855, 1865, 1875, 1885, and 1895; Massachusetts Board of Education, Annual Reports for 1839-40 ... 1899-1900.

Table VI ·2

Percentage of Young Children Attending Public School (Total Attendance) in Massachusetts in 1840, 1860, and 1875, Grouped by Town Size

Town Size	1840 (Ages 0-3)		1860 (Ages 0-4)		1875 (Ages 0-4)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
0-1249	17.2	15.1	12.1	5.6	6.2	4.1
1250-2499	15.0	11.8	8.9	4.6	3.6	2.6
2500-4999	11.9	11.5	7.1	4.0	2.4	1.8
5000-9999	5.5	6.1	4.6	2.7	1.0	1.1
10,000 & Up	5.9	7.9	5.9	7.1	.5	.6
Boston	0	0	6.9	0	0	0
All Towns	14.7	13.1	8.9	5.4	3.8	3.5

Source: Calculated from U.S. Censuses of 1840, 1860, and the Massachusetts State Census of 1875; and from the Massachusetts Board of Education Annual Reports for 1840, 1860, and 1875.

Table VI -3

Variables Used in Regression Analysis of 1840

Y	Percentage of children under four in school
X_1	Total population
X_2	Number of acres of farmland per capita
X_3	Percentage of the employed population engaged in commerce
X_4	Percentage of the employed population engaged in manufactur
X_5	Assessed valuation per capita (dollars)
X_6	Pauper expenses per capita (dollars)

Table VI ·4

Means and Standard Deviations for Regression Analysis of 1840

	Mean	Standard Deviation
Percentage of children under four in school	14.66	13.15
Total population	2438.71	5759.46
Number of acres of farmland per capita	10.44	8.80
Percentage of the employed population engaged in commerce	7.95	16.21
Percentage of the employed population engaged in manufacturing	31.71	19.13
Assessed valuation per capita (dollars)	266.58	100.46
Pauper expenses per capita (dollars)	.41	.24

Table VI ·5

Correlation Matrix for Regression Analysis of 1840

	Y	X_1	X_2	X_3	X_4	X_5	X_6
Y	1.000	-.129	.091	-.175	-.079	.033	.182
X_1	-.129	1.000	-.197	.327	.153	.614	.039
X_2	.091	-.197	1.000	-.267	-.350	-.109	-.043
X_3	-.175	.327	-.267	1.000	-.112	.090	.119
X_4	-.079	.153	-.350	-.112	1.000	.142	-.026
X_5	.033	.614	-.109	.090	.142	1.000	.225
X_6	.182	.039	-.043	.119	-.026	.225	1.000

Table VI-6

Results of Regression Analysis for 1840

	Regression coefficient	Beta
Total population	-.0003	-.123
Number of acres of farmland per capita	.0134	.009
Percentage of the employed population engaged in commerce	-.1399	-.172
Percentage of the employed population engaged in manufacturing	-.0588	-.085
Assessed valuation per capita (dollars)	.0125	.095
Pauper expenses per capita (dollars)	10.2908	.184

Constant = 10.614

R^2 = .090

Table VI -7

Variables Used in Regression Analysis of 1860

Y	Percentage of children under five in school
X_1	Total population
X_2	Number of acres of farmland per capita
X_3	Percentage of population ages fifteen and up who are merchants
X_4	Percentage of population ages fifteen and up who are engaged in manufacturing
X_5	Assessed valuation per capita (dollars)
X_6	Pauper expenses per capita (dollars)

Table VI -8

Means and Standard Deviations for Regression Analysis of 1860

	Mean	Standard Deviation
Percentage of children under five in school	8.90	5.39
Total population	3726.76	10754.58
Number of acres of farmland per capita	7.96	5.95
Percentage of population ages fifteen and up who are merchants	1.04	.89
Percentage of population ages fifteen and up who are engaged in manufacturing	21.28	19.25
Assessed valuation per capita (dollars)	512.31	341.78
Pauper expenses per capita (dollars)	1.64	12.45

Table VI ·9

Correlation Macrix for Regression Analysis of 1860

	Y	X_1	X_2	X_3	X_4	X_5	X_6
Y	1.000	-.115	.519	-.355	-.211	-.080	.020
X_1	-.115	1.000	-.268	.354	.095	.236	-.026
X_2	.519	-.268	1.000	-.566	-.485	-.152	.054
X_3	-.355	.354	-.566	1.000	.089	.312	-.071
X_4	-.211	.095	-.485	.089	1.000	-.087	-.064
X_5	-.080	.236	-.152	.312	-.087	1.000	-.028
X_6	.020	-.026	.054	-.071	-.064	-.028	1.000

Table VI -10

Results of Regression Analysis for 1860

	Regression coefficient	Beta
Total population	0	.046
Number of acres of farmland per capita	.4471	.494
Percentage of population ages fifteen and up who are merchants	-.6151	-.101
Percentage of population ages fifteen and up who are engaged in manufacturing	.0094	.034
Assessed valuation per capita (dollars)	.0003	.019
Pauper expenses per capita (dollars)	-.0041	-.009

Constant = 5.553

$R^2 = .278$

Table VI-11

Variables Used in Regression Analysis of 1875

Y	Percentage of children under five in school
X_1	Total Population
X_2	Number of acres of farmland per capita
X_3	Percentage of the employed population enaged in commerce
X_4	Percentage of the employed population engaged in manufacturi
X_5	Assessed valuation per capita (dollars)
X_6	Pauper expenses per capita (dollars)

Table VI ·12

Means and Standard Deviations for Regression Analysis of 1875

	Mean	Standard Deviation
Percentage of children under five in school	3.74	3.50
Total population	4837.96	19493.48
Number of acres of farmland per capita	8.22	9.40
Percentage of employed population engaged in commerce	6.24	4.60
Percentage of employed population engaged in manufacturing	22.94	13.21
Assessed valuation per capita (dollars)	708.26	667.69
Pauper expenses per capita (dollars)	.93	1.28

Table VI ·13

Correlation Matrix for Regression Analysis of 1875

	Y	X_1	X_2	X_3	X_4	X_5	X_6
Y	1.000	-.173	.474	-.426	-.413	-.199	.040
X_1	-.173	1.000	-.156	.224	.143	.162	-.042
X_2	.474	-.156	1.000	-.407	-.554	-.259	.300
X_3	-.426	.224	-.407	1.000	.054	.267	.226
X_4	-.413	.143	-.554	.054	1.000	-.057	-.136
X_5	-.199	.162	-.259	.267	-.057	1.000	.016
X_6	.040	-.042	.300	.226	-.136	.016	1.000

Table VI ·14

Results of Regression Analysis for 1875

	Regression coefficient	Beta
Total population	0	-.015
Number of acres of farmland per capita	.0420	.113
Percentage of the employed population engaged in commerce	-.2601	-.342
Percentage of the employed population engaged in manufacturing	-.0873	-.330
Assessed valuation per capita (dollars)	-.0005	-.095
Pauper expenses per capita (dollars)	.1068	.039

Constant = 7.284

$R^2 = .358$

Table VII -1

Principal Occupations and Total Employed Youth Ages 14-19, in Five Rural Essex Country Towns, 1885

MALES

BOXFORD

Principal Occupations of males 14-19:	# Males 14-19	% of all Males 14-19
Farm Laborers	23	48.9
Farmers	1	2.1
Boot and Shoe Workers	2	4.3
Matchmakers	1	2.1
Carpenters	1	2.1
Saw Mill Employees	1	2.1
Total Employed in all occupations	34	72.3

HAMILTON

Principal Occupations of males 14-19:		
Farm Laborers	23	60.5
Clerks	5	13.2
Steam RR (Officials & Employees)	1	2.6
Farmers	1	2.6
Total Employed in all occupations	34	89.5

LYNNFIELD

Principal Occupations of males 14-19:		
Farm Laborers	9	22.5
Teamsters	4	10.0
Boot and Shoe Workers	4	10.0
Bookkeepers and Clerks	3	7.5
Blacksmiths	1	2.5
Stoneworkers	1	2.5
Total Employed in all occupations	27	67.5

Table VII -1, Page 2

TOPSFIELD

Principal Occupations of males 14-19:	# Males 14-19	% of all Males 14-19
Farm Laborers	26	41.9
Boot and Shoe Makers	3	4.8
Bookkeepers and Clerks	3	4.8
Painters	1	1.6
Slaughter House Employees	1	1.6
Total Employed in all occupations	36	58.1

WENHAM

Principal Occupations of males 14-19:		
Farm Laborers	24	45.3
Boot and Shoe Makers	5	9.4
Salesmen	4	7.6
Fishers Curers and Packers	2	3.8
Total Employed in all occupations	40	75.7

FEMALES

BOXFORD

Principal Occupations of females 14-19:	# Females 14-19	% of all Females 14-19
House Work	13	37.1
Servants (in families)	6	17.1
Total employed in all occupations	23	65.7

HAMILTON

Principal Occupations of females 14-19:		
House Work	12	32.4
Servants (in families)	7	18.9
Teachers	1	2.7
Total employed in all occupations	20	54.1

LYNNFIELD

Principal Occupations of females 14-19:		
House Work	14	26.4
Servants (in families)	6	11.3
Boot and Shoe Makers	3	5.7
Total employed in all occupations	26	49.1

TOPSFIELD

Principal Occupations of females 14-19	# Females 14-19	% of all Females 14-19
House Work	11	23.4
Servants (in families)	4	8.5
Boot and Shoe Makers	4	8.5
Total employed in all occupations	21	44.7

WENHAM

Principal Occupations of females 14-19		
House Work	14	32.6
Boot and Shoe Makers	2	4.7
Servants (in families)	2	4.7
Total employed in all occupations	21	48.3

Table VII -2

Principal Occupations and Total Employed Youth Ages 14-19, in Three Urban Essex Country Towns, 1885

MALES

LAWRENCE

Principal Occupations of males 14-19:	# Males 14-19	% of all Males 14-19
Cotton Mill Operaters	524	23.4
Worsted Mill Operaters	158	7.1
Laborers	134	6.0
Apprentices	109	4.9
Bookkeepers and Clerks	101	4.5
Woolen Mill Operaters	78	3.5
Print Works Operaters	77	3.4
Dye Works Operaters (Cotton)	34	1.5
Salesmen	26	1.2
Farm Laborers	23	1.0
Total Employed in all occupations	1,656	73.9

LYNN

Principal Occupations of males 14-19:		
Boot and Shoe Makers	786	34.3
Apprentices	143	6.2
Bookkeepers and Clerks	142	6.2
Morocco Workers	53	2.3
Salesmen	39	1.7
Errand Boys	33	1.4
Teamsters	32	1.4
Laborers	23	1.0
Merchants and Dealers	22	1.0
Machinists	18	0.8
Tannery Employees	18	0.8
Total Employed in all occupations	1.576	68.7

SALEM

Principal Occupations of males 14-19	# Males 14-19	% of all Males 14-19
Boot and Shoe Makers	236	15.4
Cottom Mill Operaters	141	9.2
Bookkeepers and Clerks	130	8.5
Tannery Employees	67	4.4
Apprentices	52	3.4
Salesmen	47	3.1
Morocco Workers	38	2.5
Jute Mill Operaters	26	1.7
Laborers	25	1.6
Errand and Office Boys	24	1.6
Total Employed in all occupations	1,021	66.7

FEMALES

LAWRENCE

Principal Occupations of females 14-19:	# Females 14-19	% of all Females 14-19
Cotton Mill Operaters	696	27.4
Worsted Mill Operaters	457	18.0
House Work	272	10.7
Woolen Mill Operaters	231	9.1
Servants (in families)	71	2.8
Bookkeepers and Clerks	37	1.5
Dressmakers	23	0.9
Seamstresses	12	0.5
Teachers	10	0.4
Paper Mill Operaters	9	0.4
Total employed in all occupations	1,922	75.6

LYNN

Principal Occupations of females 14-19:		
Boot and Shoe Makers	656	26.5
House Work	383	15.4
Servants (in families)	198	8.0
Bookkeepers and Clerks	61	2.5
Saleswomen	38	1.5
Dressmakers	26	1.1
Paper Box Makers	21	0.9
Teachers	19	0.8
Laundry Work	14	0.6
Music Teachers	10	0.4
Total employed in all occupations	1,507	60.8

SALEM

Principal Occupations of females 14-19:	# Females 14-19	% of all Females 14-19
Cotton Mill Operaters	270	16.2
House Work	257	15.4
Boot and Shoe Makers	148	8.9
Servants (in families)	134	8.0
Jute Mill Operaters	38	2.3
Bookkeepers and Clerks	35	2.1
Saleswomen	17	1.0
Dressmakers	12	0.7
Compositors and Printers (Book and Job)	8	0.5
Laundry Work	5	0.3
Total employed in all occupations	1,507	60.8

Table VII-3

Average Length of Public Schools in Massachusetts, 1840-1880 (Days)

	5 Rural Communities	3 Urban Communities	Essex County	Massachusetts
1839-40	151	269	171	150
1844-45	146	260	197	166
1849-50	156	247	187	162
1854-55	153	221	206	168
1859-60	147	238	202	172
1864-65	143	234	198	172
1869-70	175	214	191	180
1874-75	184	225	208	192
1879-80	190	224	208	192

Source: Massachusetts Board of Education, Annual Reports, 1839-40 ... 1879-80

Table VII-4

Percentage of Persons Under Twenty Years Old Enrolled in School in Massachusetts, 1840-1880

	5 Rural Communities	3 Urban Communities	Essex County	Massachusetts
1839-40	74.8	56.1	58.5	63.7
1844-45	72.7	60.5	62.3	62.2
1849-50	74.8	52.9	60.2	62.9
1854-55	61.3	49.1	55.6	58.2
1859-60	65.2	50.9	56.2	56.8
1864-65	71.3	53.0	57.7	60.4
1869-70	70.4	53.3	56.2	56.5
1874-75	52.8	42.5	47.2	50.8
1879-80	49.8	47.1	49.7	49.3

Source: Calculated from the Massachusetts Board of Education, Annual Reports, 1839-40 ... 1879-80. The estimation of this set of data is very difficult because the state did not provide good data on private education. Full details on our estimation procedures will be provided in our forthcoming analysis of Massachusetts education from 1826-1880.

Table VII -5

Annual Number of Days in School Per Person Under Twenty in Massachusetts, 1840-1880

	5 Rural Communities	3 Urban Communities	Essex County	Massachusetts
1839-40	61.7	92.8	63.7	60.6
1844-45	62.0	95.0	72.0	62.4
1849-50	73.0	83.9	70.6	63.0
1854-55	56.1	73.2	71.2	60.6
1859-60	62.3	77.7	70.3	62.3
1864-65	64.5	76.4	73.2	66.4
1869-70	70.1	70.5	68.8	65.7
1874-75	64.7	67.8	70.0	68.7
1879-80	60.1	74.8	75.1	72.2*

* 1878-79

Source: Calculated from the Massachusetts Board of Education, Annual Reports, 1839-40 ... 1879-80. The estimation of this set of data is very difficult because the state did not provide good data on private education. Full details on our estimation procedure will be provided in our forthcoming analysis of Massachusetts education from 1826-1880.

Table VII -6

Percentage of Children Ages 0-19 Attending School in Eight Essex County Towns in 1860

Age	Rural				Urban				Total			
	Male		Female		Male		Female		Male		Female	
	N	%	N	%	N	%	N	%	N	%	N	%
0	45	0	49	0	129	0	143	0	174	0	192	0
1	48	0	49	0	113	0	113	0	161	0	162	0
2	56	0	49	0	142	0	138	0	198	0	187	0
3	54	9.3	59	3.4	119	.8	105	0	173	3.5	164	1.2
4	48	25.0	51	23.5	157	7.6	106	14.2	205	11.7	157	17.2
5	50	72.0	56	60.7	127	64.6	110	70.0	177	66.7	166	66.9
6	57	86.0	53	92.5	97	83.5	110	84.5	154	84.4	163	87.1
7	49	87.8	44	100.0	92	93.5	106	95.3	141	91.5	150	96.7
8	52	92.3	54	94.4	107	94.4	104	96.2	159	93.7	158	95.6
9	53	96.2	43	95.3	73	91.8	100	94.0	126	93.7	143	94.4
10	40	97.5	40	100.0	84	95.2	106	89.6	124	96.0	146	92.5
11	42	95.2	45	97.8	65	93.8	79	93.7	112	93.4	124	95.2
12	42	90.5	52	92.3	90	87.8	101	90.1	132	88.6	153	90.8
13	54	92.6	46	84.8	62	79.0	83	78.3	116	85.3	129	80.6
14	62	80.6	63	82.5	79	59.5	93	75.3	141	68.8	156	78.2
15	57	71.9	50	80.0	78	38.5	92	48.9	135	52.6	142	59.9
16	44	52.3	43	67.4	84	22.6	93	14.0	128	32.8	136	30.9
17	54	42.6	41	34.1	85	8.2	84	6.0	139	21.6	125	15.2
18	54	29.6	41	14.6	83	3.6	123	2.4	137	13.9	164	5.5
19	55	12.7	52	11.5	83	2.4	107	.9	138	6.5	159	4.4

Table VII ·7

Percentage of Children Ages 0-19 Attending School in Eight Essex County Towns in 1880

Age	Rural				Urban				Total			
	Male		Female		Male		Female		Male		Female	
	N	%	N	%	N	%	N	%	N	%	N	%
0	35	0	34	0	106	0	92	0	141	0	126	0
1	33	0	33	0	65	0	88	0	98	0	121	0
2	39	0	38	0	110	0	97	0	149	0	135	0
3	33	3.0	34	0	101	3.0	95	0	134	3.0	129	0
4	28	10.7	40	20.0	115	2.6	102	2.9	143	4.2	142	7.7
5	32	43.8	39	71.1	90	23.3	96	34.4	122	28.7	135	45.2
6	36	86.1	35	71.4	101	58.4	98	76.5	137	65.7	133	75.2
7	45	75.0	35	88.6	97	76.3	107	82.2	142	76.1	142	83.8
8	33	78.8	38	84.2	84	83.3	89	80.9	117	82.1	127	81.9
9	31	90.3	30	93.3	73	89.0	96	88.5	104	89.4	126	89.7
10	44	90.9	35	94.3	94	89.4	74	91.9	138	89.9	109	92.7
11	35	94.3	24	91.7	87	93.1	82	82.9	122	93.4	106	84.9
12	35	94.3	32	96.9	100	87.0	97	84.5	135	88.9	129	87.6
13	37	100.0	25	100.0	89	80.9	80	78.8	126	86.5	105	83.8
14	41	78.0	33	81.8	97	61.9	95	53.7	138	66.7	128	60.9
15	27	77.8	25	80.0	93	40.9	98	35.7	120	49.2	123	44.7
16	32	43.8	27	59.3	94	21.3	107	26.2	126	27.0	134	32.8
17	30	23.3	32	58.1	89	11.3	76	18.4	119	14.3	118	28.0
18	34	11.8	33	18.2	91	7.7	115	11.3	125	8.8	148	12.8
19	47	6.4	36	13.9	103	4.9	107	6.5	150	5.3	143	8.4

Table VII -8

Comparison of the Percentages of Children Attending School In Eight Essex County Towns in 1860 in the Various Samples

Males

Age	Original Sample		MCA Sample		Non-MCA Sample	
	N	%	N	%	N	%
4	205	11.7	188	12.2	17	5.9
5	177	66.7	159	66.0	18	72.2
6	154	84.4	140	85.7	14	71.4
7	141	91.5	126	91.3	15	93.3
8	159	93.7	142	95.8	17	76.5
13	116	85.3	98	88.8	18	66.7
14	141	68.8	116	69.0	25	68.0
15	135	52.6	104	52.9	31	51.6
16	128	32.8	96	34.3	32	28.1
17	139	21.6	113	23.9	26	11.5
18	137	13.9	83	14.5	54	13.0
19	138	6.5	89	7.9	49	4.1

Females

4	157	17.2	139	15.8	18	27.8
5	166	66.9	153	66.7	13	69.2
6	163	87.1	150	89.3	13	61.5
7	150	96.7	136	96.3	14	100.0
8	158	95.6	140	95.0	18	100.0
13	129	80.6	110	85.4	19	52.6
14	156	78.2	128	82.0	28	60.7
15	142	59.9	113	68.2	29	27.6
16	136	30.9	100	39.0	36	8.3
17	125	15.2	88	17.1	37	10.8
18	164	5.5	93	8.6	71	1.4
19	159	4.4	82	6.1	77	2.6

Table VII-9

Comparison of the Percentages of Children Attending School In Eight Essex County Towns in 1880 in the Various Samples

Males

Age	Original Sample		MCA Sample		Non-MCA Sample	
	N	%	N	%	N	%
4	143	4.2	126	4.8	17	0
5	122	28.7	113	29.2	9	22.2
6	137	65.7	126	65.9	11	63.6
7	142	76.1	135	74.8	7	100.0
8	117	82.1	106	83.0	11	72.7
13	126	86.5	106	89.6	20	70.0
14	138	66.7	121	67.8	17	58.8
15	120	49.2	106	51.9	14	28.6
16	126	27.0	108	27.8	18	22.2
17	119	14.3	99	16.1	20	5.0
18	125	8.8	99	11.1	26	0
19	150	5.3	111	7.2	39	0

Females

Age	Original Sample		MCA Sample		Non-MCA Sample	
	N	%	N	%	N	%
4	142	7.7	131	6.9	11	18.2
5	135	45.2	121	47.1	14	28.6
6	133	75.2	120	72.5	13	100.0
7	142	83.8	131	83.2	11	90.9
8	127	81.9	112	83.9	15	66.7
13	105	83.8	92	84.3	12	83.3
14	128	60.9	115	63.5	13	38.5
15	123	44.7	106	48.1	17	23.5
16	134	32.8	115	35.7	19	15.8
17	118	28.0	85	31.8	33	18.2
18	148	12.8	119	16.0	29	0
19	143	8.4	98	11.2	45	2.2

Table VII ·10

School and Work Patterns of Females Ages 13-19 in Eight Essex County Towns in 1860 and 1880

(Percentage of Each Age-Group)

1860

Age	School, No Work	No School, No Work	School & Work	Work, No School
13 (n=110)	83.6	13.6	1.8	.9
14 (n=128)	78.9	16.4	3.1	1.6
15 (n=113)	66.4	15.9	1.8	15.9
16 (n=100)	35.0	34.0	4.0	27.0
17 (n= 88)	14.8	46.6	2.3	36.4
18 (n= 93)	8.6	41.9	0	49.5
19 (n= 82)	3.7	43.9	2.4	50.0
13-19 (n=714)	45.8	28.6	2.2	23.4

1880

Age	School, No Work	No School, No Work	School & Work	Work, No School
13 (n= 92)	80.4	6.5	4.3	8.7
14 (n=115)	60.0	13.9	3.5	22.6
15 (n=106)	45.3	18.9	2.8	33.0
16 (n=115)	34.8	24.3	.9	40.0
17 (n= 85)	31.8	21.2	0	47.1
18 (n=119)	16.0	34.5	0	49.6
19 (n= 98)	10.2	31.6	1.0	57.1
13-19 (n=730)	39.3	21.9	1.8	37.0

Table VII -11

School and Work Patterns of Males Ages 13-19 in Eight Essex County Towns in 1860 and 1880 (Percentage of Each Age-Group)

1860

Age	School, No Work	No School, No Work	School & Work	Work, No School
13 (n= 98)	88.8	11.2	0	0
14 (n=116)	65.5	25.0	3.4	6.0
15 (n=104)	46.2	23.1	6.7	24.0
16 (n= 96)	25.0	16.7	9.4	49.0
17 (n=113)	9.7	10.6	14.2	65.5
18 (n= 83)	6.0	20.5	8.4	65.0
19 (n= 89)	3.4	12.4	4.5	79.8
13-19 (n=699)	36.3	17.2	6.7	39.8

1880

Age	School, No Work	No School, No Work	School & Work	Work, No School
13 (n=106)	81.1	5.7	8.5	4.7
14 (n=121)	58.7	5.8	9.1	26.4
15 (n=106)	43.4	4.7	8.5	43.4
16 (n=108)	25.9	9.3	1.9	63.0
17 (n= 99)	13.1	13.1	3.0	70.7
18 (n= 99)	7.1	5.1	4.0	83.8
19 (n=111)	6.3	10.8	.9	82.0
13-19 (n=750)	34.4	7.7	5.2	52.7

APPENDIX B. Definition of the variables contained in the tables in Appendix A, III-1 through III-5.

Discussion of these definitions is found, as noted, in Appendix C.

Abbreviation: R = The values are taken directly from the published statistical abstracts of the Annual Reports of the Secretary of the Massachusetts Board of Education.

TABLE III-1

Col. 1. Number of children 0-19.

Source: Reported figures are from the United States Censuses of 1840, 1850, 1860, 1870, and 1880, and from the Massachusetts state censuses of 1855, 1865, and 1875. Interim years are extrapolated on the assumption of constant arithmetic annual increases between censuses. Figures are for all races.
(See discussion, Appendix C-1)

Col. 2. Number of children enrolled in public schools, all ages, summer term.

Source: R.

Col. 3. Percent of children 0-19 enrolled in public schools, summer term.

Definition: Col. 2/ Col. 1

Col. 4. Number of children enrolled in public schools, all ages, winter term.

Source: R

Col. 5. Percent of children 0-19 enrolled in public schools, winter term.

Definition: Col. 4/ Col. 1

Col. 6. Average daily number of children attending public schools, summer term.

Source: R

Col. 7. Average percent of children 0-19 attending public schools daily, summer term.

Definition: Col. 6/ Col. 1

Col. 8. Average daily number of children attending public schools, winter term.

Source: R

Col. 9. Average percent of children 0-19 attending public schools daily, winter term.

Definition: Col. 8/ Col. 1

TABLE III-2

Col. 10. Number of public schools.

Source: R

Col. 11. Aggregate days of school, county data.

Source: Total of county aggregates given in the Reports, converted to a 22-day school month (number of months x 22, plus number of days x .785) (See discussion, Appendix C-2)

Col. 12. State average length of public school session.

Definition: Col. 11/ Col. 10, to the nearest whole day.

Col. 13. Estimated average daily attendance all year, public schools.

Definition: for 1840-1869, (Col. 6 + Col. 8) / 2
for 1870-1880, R

Col. 14. Total days of public school attended (estimated).

Definition: Col. 12 x Col. 13

Col. 15. Average number of days of public school attended by all children 0-19.

Definition: Col. 14/ Col. 1

Col. 16. Percent of children 0-19 attending public school daily, average.

Definition: Col. 13/ Col. 1

Col. 17. Estimated total annual enrollment, all ages, public schools.

Definition: 1840-1869, Col. 4 + (.25 x Col. 2)
1870-1880, R
(See discussion, Appendix C-3)

Col. 18. Percent of all children 0-19 enrolled in public school (estimated).

Definition: Col. 17/ Col. 1

TABLE III-3

Col. 19. Number of incorporated academies.

Source: R.

Col. 20. Average enrollment in incorporated academies.

Source: R (the "average number of scholars in incorporated academies"), corrected for charitable institutions in Boston, 1860-1880.
(See discussion, Appendix C-4)

Col. 21. Estimated average daily attendance, incorporated academies.

Definition: Col. 20 x .9, to the nearest whole number
(See discussion, Appendix C-5)

Col. 22. Estimated total annual enrollment, incorporated academies.

Definition: Col. 20 x 1.2, to the nearest whole number
(See discussion, Appendix C-5)

Col. 23. Average length of incorporated academy session, in days

Source: 1840-49, R
1850-80, not reported. Estimate = 220 days, the average for years 1840-49.

Col. 24. Total days of incorporated academy attended (estimated)

Definition: Col. 21 x Col. 23

TABLE III-4

Col. 25. Number of unincorporated private schools.

Source: R

Col. 26. Average number of scholars enrolled in unincorporated private schools.

Source: R (the "average number of scholars in unincorporated academies, private schools, etc.")

Col. 27. Estimated average daily attendance, unincorporated private schools.

Definition: Col. 26 x .9, to the nearest whole number (See discussion, Appendix C-5)

Col. 28. Estimated total annual enrollment, unincorporated private schools.

Definition: Col. 26 x 1.2, to the nearest whole number (See discussion, Appendix C-5)

Col. 29. Average length of unincorporated schools, in days.

Source: 1840-49, R
1850-1880, constant of 164, estimate.
(See discussion, Appendix C-6)

Col. 30. Total days of unincorporated private schools attended (estimated).

Definition: Col. 27 x Col. 29

TABLE III-5

Col. 31. Estimated total annual enrollment at all schools.

Definition: Col. 17 + Col. 22 + Col. 28.

Col. 32. Percent of all children 0-19 enrolled at school, public and private (estimated).

Definition: Col. 31 / Col. 1

Col. 33. Estimated total annual enrollment, less extended common schools.

Definition: For 1840-49, adjusts Col. 31 by subtracting the estimated number of students attending both private and public schools (dual attenders), shown in Table 9, Appendix C-6, Col. 3, below. For 1850-1880, same as Col. 31.

Col. 34. Percent of children 0-19 enrolled at schools, public and private, controlling for extended common schools.

Definition: Col. 33 / Col. 1

Col. 35. Total days of school attended, public and private (estimated).

Definition: Col. 14 + Col. 24 + Col. 30

Col. 36. Average number of days of public or private school attended by all children 0-19 (estimated).

Definition: Col. 35 / Col. 1

Col. 37. Percent of children 0-19 attending school daily, public and private, average.

Definition: For 1840-49:

$$\frac{\text{Col. } 13 + \text{Col. } 21 + [(\text{Col. } 26 - \text{Table } 9, \text{Col. } 3) \times .9]}{\text{Col. } 1}$$

For 1850-1879:

$$\frac{\text{Col. } 13 + \text{Col. } 21 + \text{Col. } 27}{\text{Col. } 1}$$

APPENDIX C: Discussion of adjustments, estimates, and extrapolations made in calculating Tables VII-1 through VII-5, Appendix A.

C-1. The discrepancy between population census figures and school committee returns of school-age children.

Problem: Local school committees in Massachusetts were required by law to determine annually the number of school-age children (4-16 until 1850, 5-15 thereafter). All the attendance ratios calculated by Horace Mann and his successors were based on these figures for school-age children. However, no funds were provided to the committees for these annual censuses, and it is apparent that some towns performed this duty casually at best. In 1850, for example, the town of Dracut admitted that they had simply reported the number of different school attenders for this figure. The Lawrence school committee complained of inaccurate answers from householders, commenting that "in the minds of many of the less informed part of our peculiar community, the census-taker is associated with taxation."[1] The only available check on these suspect figures are the population censuses taken by the federal government and, in mid-decade, by the state. The discrepancy between the annual school committee census figures and the periodic population figures is often substantial, sometimes as great as ten to fifteen percent. Moreover, there is a rural-urban bias in the discrepancy. The school figures for smaller towns more closely approximate the census figures than in large towns, which more consistently underestimate their school-age populations and thereby overestimate school enrollment. For example, Table 1 gives the rates of attendance and enrollment for three urban and five rural towns in Essex County for 1860, using as a denominator first the United States Census figure for children five to fifteen (that is, those above five and not yet fifteen) and then the school census figures for children five to fifteen. Contrary to the usual nineteenth-century terminology, committees were told to interpret this to include children who were fifteen years old.[2] This makes the upward bias in the enrollment figures even more suspect: additional school-age children in the denominator of the ratio should have depressed the rates of attendance relative to the rates based on Census figures. The committees, clearly, found fewer children to count than the federal census marshalls. The tendency for the rural school committees (except Topsfield) to approximate more closely the Census figures is evident in Table 1.

Solution: The population censuses are not perfect; like the school censuses, they missed some people. But because federal and state censuses were more strictly regulated, with detailed instructions to appointed and paid marshalls, we believe they are more reliable, and we have used them for the denominator of our attendance ratios throughout, extrapolating arithmetically for interim years. Also, school committee figures were collected only for the arbitrarily defined school-age range (5-15 after 1850), even though children under five and over

TABLE 1: Attendance Figures for Eight Essex County Towns, 1860

		Average Daily Attendance, All Ages		Total Annual Enrollment Children 5-15	
Towns	Population 1860	Percent of Children 5-14 (U.S. Census)	Percent of Children 5-15 (Town Committee)	Percent of Children 5-14 (U.S. Census)	Percent of Children 5-15 (Town Committee)
Salem	20,934	60.0	74.2	103.3	111.5
Lawrence	16,114	52.6	61.5	83.4	97.4
Lynn	15,713	79.3	89.7	102.7	116.2
Topsfield	1,250	43.3	59.7	60.4	83.5
Wenham	1,073	76.4	73.0	96.8	92.6
Boxford	1,034	78.0	72.4	98.7	91.6
Hamilton	896	73.8	71.8	100.7	98.0
Lynnfield	883	80.0	85.8	100.6	108.1

fifteen continued to attend school. Thus, a population base of all ages zero to nineteen is the most appropriate.

C-2. Converting length of school session, reported in months and days, into days when school was held.

Problem: Vinovskis, in his "Trends in Massachusetts Education," used a 28-day month to calculate the number of days that schools were held, noting that this exaggerated somewhat because there was no deduction for Sundays and holidays. Apparently, Horace Mann used the same figure.[3] However, by the time of Barnas Sears, Mann's successor, the printed school return form explicitly stated that "a month is four school-weeks; a half month is ten, eleven, or twelve days, according to the length of the school week, as fixed by custom in the several towns. In most towns a school-month is twenty-two days." Later instructions reduced the school month further to twenty days.[4]

Solution: We have used the 22-day school month throughout our period, a compromise aimed at estimating as closely as possible the actual average number of days of schooling attended by children in this period. We have therefore multiplied the number of whole months reported by school committees by 22 days. Because the part-months, reported in days, often exceeded 22, we assume that towns were reporting the time that had elapsed while schools were open, not the number of days school was held. Thus we have converted the reported additional days into schools according to the ratio 22/28, or .785. For example, a town which reported the average length of public school as four months, fourteen days, was interpreted to mean 99 days, calculated as follows:

4 months x 22 = 88 school days
+ 14 days x .785 = 11 school days
99 school days

Problem: A second substantial problem arises from the manner in which state officials calculated the state average length of public school sessions. Mann and other early data gatherers, though industrious, often took the easy way out when compiling state averages. In this case they took the average length of public school for each county, totalled them, and divided by the number of counties, thus giving equal weight to the most populous and least populous counties. In other words, the reported state average length of public school session is an average of the county averages. Obviously, this distorts the effective length of school experienced by the school children in the state. In particular, the Massachusetts state average was artificially inflated in the 1840's by the fact that tiny Nantucket County, with fewer than twenty public schools, reported every year that the county's schools had been held a full twelve months.

Solution: The most accurate state average would weight every school by the number of students attending it. This data, however, is not available. Town by town data is available, but weighting by town would require about 300 calculations for each year. We have instead recalculated the state average length of public school, weighting each county by the number of public schools in it. This proved manageable and avoided the gross distortions of averaging the county averages equally. The method employed for each year is shown in Table 2.

TABLE 2: State average length of public school, Massachusetts, 1841-42, calculated with weighted and non-weighted county averages.

County	Reported aver. length of public schools		Converted to days (22-day school month)	Weighted by number of schools	
	Months	Days		Number of public schools	Aggregate days public schools held
Suffolk	11	26	262	124	32,488
Essex	9	1	199	282	56,118
Middlesex	7	27	175	412	72,100
Worcester	5	23	128	554	70,912
Hampshire	6	20	148	208	30,784
Hampden	7	21	171	208	35,568
Franklin	5	25	130	247	32,110
Berkshire	7	3	156	259	40,404
Norfolk	8	9	183	194	35,502
Bristol	6	5	136	280	38,080
Plymouth	7	9	161	250	40,250
Barnstable	6	18	146	151	22,046
Dukes	4	8	94	17	1,598
Nantucket	12	0	264	12	3,168
State total			2353	3198	511,128

	Average of county averages	Weighted average
State average (nearest whole day)	2353/14 = 168	511,128/3198 = 160

As Table 3 demonstrates, the differences between our recalculated averages are substantial, particularly in the early part of our period. For the mid-1860's and 1870's, when the public school sessions had become longer and more uniform, the discrepancy between the two methods of calculation is less. Nonetheless, we have consistently used our weighted county averages.

C-3. Determining annual enrollments from figures for winter and summer terms.

Problem: Until 1870, Massachusetts collected separate figures on winter and summer terms, without asking the total number of different children who attended during the year. Enrollment in the summer term was consistently lower than in the winter, due to the seasonal nature of agricultural work. It is a commonplace of mid-nineteenth-century local reports to insist upon male teachers for the winter session in order to cope with the discipline problems of older boys, who attended only in the winter. However, it is not clear that all the children who attended the summer session also attended during the winter; thus, interpreting the winter enrollment to be the total annual enrollment might be inaccurate. It would also not wholly reflect the children who moved in and out of the community during the entire year.

Solution: We have estimated the total number of children taught all year as equal to the winter enrollment plus 25 percent of the summer enrollment. This is essentially a guess about attendance practices and mobility rates. The scant evidence available is erratic. Boxford reported in 1880 that winter enrollment was 115, spring enrollment 109, and fall term, 103, while the whole number of different pupils taught was 135--that is, the winter enrollment plus 24 percent of the spring enrollment. In Lynn, in 1847-48 the total annual enrollment equalled the winter enrollment plus five percent of the summer enrollment, but in 1854-55 it equalled the winter enrollment plus 32 percent of summer.[5] Our estimate is a compromise between the values yielded from these rare examples in which towns included both types of figures.

The state-wide gap between summer and winter enrollments narrowed as the state urbanized. By 1870, therefore, our estimate is probably somewhat high, which is demonstrated by the drop from 52.4 percent enrolled in 1869-70, to 45.6 percent enrolled in 1870-71 when actual annual enrollment rates were reported. Thus, our graph (Chapter VII, Graph 1) of declining total enrollment dips artificially in 1870 due to the change in reporting categories. The long range decrease is real but more gradual.

C-4. Erratic reporting of incorporated academies by Boston.

In the 1860's and 1870's Boston sometimes included its Roman Catholic educational institutions among its incorporated academies and sometimes did not. For the missing years we made estimates and revised the enrollment figures upward, which raised the state totals correspondingly. The increased enrollments are real students, but since some of them probably represent a category shift, or possibly children not previously reported, the rise in incorporated academy students during these decades should be interpreted with some caution.

TABLE 3: Length of public school session, state average, Massachusetts, 1840-1880, comparing weighted and non-weighted averages.

Year	Reported (aver. of county averages)	Recalculated (weighted by # of schools)	Year	Reported (aver. of county averages)	Recalculated (weighted by # of schools
1839-40	162	150	1859-60	168	172
1840-41	167	158	1860-61	176	172
1841-42	168	160	1861-62	177	174
1842-43	167	159	1862-63	176	172
1843-44	171	163	1863-64	169	173
1844-45	174	166	1864-65	167	172
1845-46	174	166	1865-66	169	172
1846-47	174	168	1866-67	- -	175
1847-48	171	167	1867-68	178	177
1848-49	173	168	1868-69	179	179
1849-50	161	162	1869-70	181	180
1850-51	165	164	1870-71	188	181
1851-52	166	166	1871-72	182	184
1852-53	165	166	1872-73	182	185
1853=54	167	167	1873-74	182	187
1854-55	167	168	1874-75	185	192
1855-56	167	168	1875-76	189	192
1856-57	164	169	1876-77	188	189
1857-58	166	169	1877-78	189	192
1858-59	167	173	1878-79	188	191
			1879-80	189	192

C-5. Average enrollment figures for private schools.

Problem: The printed school returns instructed local officials to report the whole number of pupils in public schools during the year, but for private schools, both incorporated and unincorporated, the forms requested the "average number of scholars attending each," and the detailed instructions said to "give an aggregate of the average numbers for the year in all the Academies and Private Schools, according to the best information obtained." Indeed, the forms from 1850 on label the column for unincorporated schools an "estimated" average.[6] The language of these forms suggests average, not total, enrollment, and common sense supports this interpretation. Private schools submitted no returns; it seems unlikely that the public school committee would know the number of different scholars attending all year, or even the average daily attendance. More likely they estimated the number of scholars normally belonging to a given private school.

What, then, is the relationship between average enrollment and total annual enrollment, on the one hand, or average enrollment and average daily attendance, on the other?

Solution: We infer from all the available evidence that throughout our period the reported figures for private schools are average enrollment, while those for public schools are for total cumulative enrollment, that is, the total number enrolled during the period reported. We estimate that average daily attendance at private schools is 90 percent of average enrollment and that total enrollment is 120 percent of average enrollment.

These ratios are consistent with figures for public schooling in 1880 and 1885, when all three statistics are known. The ratio of average daily attendance to average enrollment is 89 percent in 1880 and 90 percent in 1885. Total enrollment is 120 percent of average enrollment in 1880 and 125 percent in 1885. These two estimates combine to result in a ratio of average daily attendance to total annual enrollment of 75 percent. This relationship is known for public schools throughout our period. The grand mean of public school daily attendance to annual enrollment for the period 1840 to 1880 is 75.9 percent. Although one might argue that the ratio of daily attendance to average enrollment should be higher for schools where tuition is paid (and presumably motivation was thereby greater) and especially at boarding schools (though they were a small portion of the whole number), we know of no way to attach a value to this speculation. Our approach is thus a middling solution, supported by the available data.

C-6. Counting students who enrolled in both public and private schools.

Problem: Many children who were counted as private school students were public school students whose parents were extending their brief public school education at private schools. This was particularly true before 1850, when even the schools expressly labelled as "kept to prolong the common schools" were counted as private. Whether they are designated "public" or "private" is in itself not very important, for in terms of financial support they were a hybrid. However, their status as public or private affects total enrollment estimates: in the private column their students were double-counted, and in the public column, after 1850, they were not. In Horace Mann's years, then, more students were being double counted than after his successor, Sears, directed that "when such schools are prolonged by private subscriptions and open as before to all of the children of the district, they are still to be reckoned as Public Schools." Thus in his Third Report Mann estimated that there were about 12,000 students who were "wholly dependent" upon private schooling, even though (according to our estimates) there were over 30,000 students enrolled at private schools that year. Mann repeated the 12,000 estimate in later reports, and it may have been close to the truth.[7] But it was stated in a casual way--there were "say, 12,000" students enrolled only in private schools--and we wished to investigate the matter further. Despite the relatively small private sector in schooling by the 1840's, the replacement of parental and private teacher initiative by state initiative in the nineteenth century is an important subject. Moreover, for our statistical series, we needed some means to estimate the length of session of unincorporated private schools after 1850 when actual figures were no longer collected. If the short-term "prolonging" schools were shifted to the public category, the average length of session in the unincorporated private category must have risen, because the remaining schools were longer term.

Solution: No data is available on dual public-private attendance, so we cannot explore the enrollment question directly. But data is available on the numbers of students enrolled in unincorporated private schools held for different lengths. In 1848-49, the last year that the "prolonging" schools were counted as private, the manuscript school returns of 151 towns give information about the average enrollments and length of session for individual unincorporated private schools.[8] We divided the schools into those that met less than three months and those that met three or more months, and we designated these "short-term" and "long-term" private schools. These categories are not synonymous with dual-attenders or private-only-attenders. Some students in the long-term schools may have also attended public school, and, conversely, some who went only a month or two to private school may have had no other schooling, public or private. However, it seems reasonable to assume (and is supported by scattered evidence in the manuscript returns) that the "schools kept to prolong the common schools," all of whose students were double counted, were all in the short-term group; and it is this group we wished to control for, because it is this group that must have accounted for the sharp decline in unincorporated private schools in 1850, when the reporting instructions changed.

Our detailed survey of the 1848-49 returns yielded the following breakdown. Of the 9,470 students in the private schools of the 151 towns providing figures for individual schools, 3,297 (or 35 percent) were in schools held less than three months, while 6,173 (or 65 percent) were in schools whose session was three months or longer. Using these percentages as estimates for the whole decade, we calculated the breakdown between short-term and long-term private schools prior to Sears' category shift, and we subtracted the short-termers (as equivalent to doubly-enrolled public-private students) in our adjusted total enrollment estimate (See Appendix A, Table VII-5, Column 33, above). This is in accord with Horace Mann's reference in 1838 to "those small and short private schools which are kept in the districts between the winter and summer terms, and which comprise, probably, more than one-half of the scholars attending the whole number" of private schools and academies.[9]

In order to estimate the average length of private schools after 1850 (when the prolonging schools were eliminated and the average length no longer reported), we calculated hypothetical 1850 figures based on the following assumptions: we attributed the entire abrupt drop (8,049 students) to the short-term schools, which had previously included the schools kept to prolong the common schools, and we left the enrollment in long-term schools constant from 1849 to 1850. This resulted in estimated figures as follows:

	Average enrollment, all unincorporated	Long-term students	Short-term students
1848-49	27,583	17,929 (65%)	9,654 (35%)
1849-50	19,534 (decrease of 8,049)	17,929 (92%) (assumed constant)	1,605 (8%) (decrease of 8,049)

By 1850, if our assumption is correct, the short-term schools only enrolled eight percent of the total in the category, while the long-term schools enrolled 92 percent. To estimate the new average length of session for the whole category after the removal of the prolonged common schools, we assumed that the short-term average length remained at 44 days (an estimate based on the manuscript returns) and that the long-term average length was equal to the average of the previous eleven years, or 175 days. Combining these estimates with the estimated proportion of short-term (8 percent) and long-term (92 percent) enrollments in 1850 yielded an estimated length of session of 164 days for the whole category (see Table 4). We have used that as our constant estimate after 1850. After 1850 we ceased adjusting for dual enrollment because state policy, with apparent success, was bent on eliminating schools kept by subscription to prolong the common schools and, by our rough estimates, short-term schools were already less than ten percent by 1850.

TABLE 4: Estimated division of unincorporated private schools into short-term and long-term schools, Massachusetts, 1840-1850.

	1	2	3					
	SHORT-TERM SCHOOLS				LONG-TERM SCHOOLS			
Year	Average Enrollment Less than 3 months	Average Attendance Short-term	Total Enrollment Short-term	Average Length Short-term	Average Enrollment 3 months +	Average Attendance Long-term	Total Enrollment Long-term	Average Length Long-term
1839-40	10,022	9,020	12,026	44	18,613	16,752	22,336	192
1840-41	11,128	10,015	13,354	44	20,666	12,599	22,319	184
1841-42	9,948	8,953	11,938	44	18,474	16,627	19,952	198
1842-43	9,314	8,383	11,177	44	17,297	15,567	18,680	166
1843-44	9,047	8,142	10,856	44	16,803	15,123	18,148	193
1844-45	9,367	8,430	11,240	44	17,395	15,656	18,787	187
1845-46	8,511	7,660	10,213	44	15,807	14,226	17,071	173
1846-47	9,375	8,438	11,250	44	17,410	15,669	18,803	187
1847-48	9,526	8,573	11,431	44	17,690	15,921	19,105	164
1848-49	9,654	8,689	11,585	44	17,929	16,136	19,363	182
1849-50	1,605	1,445	1,926	44	17,929	16,136	19,363	175

C-7. A final note.

For those who have made their way through this arcane discussion, we hope that this appendix, in addition to documenting the revised time series presented in Chapter VII, has served as an object lesson in the complexities of nineteenth-century school statistics which are, unfortunately, often not what they seem to be on the surface. We hope that our effort, far from discouraging those interested in the quantitative dimensions of nineteenth-century education, will prompt similar efforts to construct adjusted time series for other states and other periods.

FOOTNOTES to APPENDIX C

1. Dracut school committee to the Secretary of the Board of Education, MS letter filed with School Return, 1849-50, BSL, Annex; Lawrence School Committee, Annual Report (Lawrence, 1854).

2. See, for example, the printed instructions to the School Return forms for 1875, BSL, Annex.

3. Vinvoskis, "Trends," n. 16.

4. The quote is from the School Return form for 1850-51, BSL, Annex. For 20-day school months, see instructions for 1875-76, instruction 15.

5. Boxford School Committee, Annual Report (Salem, 1880); Lynn School Committee, Annual Report (Lynn, 1848), and Lynn, Annual Report (Lynn, 1855).

6. School Return forms, BSL, Annex. See, for example, forms for 1850-51 and 1859-60.

7. Massachusetts Board of Education, Third Annual Report (Boston, 1840). The estimate is repeated in the Seventh, Eleventh, and Twelfth Reports.

8. In 1848-49 there were 314 towns in Massachusetts; 242 towns reported that they had unincorporated private schools, and of these, 151 reported enrollments and length of term for each school.

9. Massachusetts Board of Education, First Annual Report (Boston, 1838), p. 52.